

1963  
CENSUS OF MANUFACTURES

VOLUME I  
PART 2  
PRELIMINARY REPORTS

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AND 19

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1963 CENSUS OF MANUFACTURES

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MC63(P)-3	General Statistics for Industry Groups and Industries
MC63(P)-4	General Statistics for Geographic Divisions and States
MC63(P)-5	Shipments of Defense-Oriented Industries in 1963 by Industry, Region, and Federal Agency
MC63(P)-6	Water Use in Manufacturing
MC63(P)-7	General Statistics for Counties
MC63(P)-8	General Statistics for Standard Metropolitan Statistical Areas
MC63(P)-9	General Statistics for States

Report Number	SIC Code	Industry	Report Number	SIC Code	Industry
MC (P)-			MC (P)-		
20A-1	(2011 2013	Meat slaughtering plants and Meat processing plants	20D-1	(2041 2045	Flour mills and Blended and prepared flour
2	2015	Poultry dressing plants	2	2042	Prepared animal feeds
20B-1	2021	Creamery butter	3	2043	Cereal preparations
2	2022	Natural and process cheese	4	2044	Rice milling
3	2023	Condensed and evaporated milk	5	2046	Wet corn milling
4	2024	Ice cream and frozen desserts	20E-1	2051	Bread and related products
5	2026	Fluid milk	2	2052	Biscuit, crackers and cookies
20C-1	2031	Canned and cured seafoods	20F-1	2061	Raw cane sugar
2	2032	Canned specialties	2	2062	Cane sugar refining
3	2033	Canned fruits and vegetables	3	2063	Beet sugar
4	2034	Dehydrated foods products	4	(2071 2072	Confectionery products and Chocolate and cocoa products
5	2035	Pickles, sauces, salad dressings	5	2073	Chewing gum
6	2036	Fresh or frozen packaged fish			
7	2037	Frozen fruits and vegetables			





Report Number	SIC Code	Industry	Report Number	SIC Code	Industry
MC63(P)-			MC63(P)-		
20G-1	2082	Malt liquors	22F-1	2291	Felt goods, n.e.c.
2	2083	Malt	2	2292	Lace goods
3	2084	Wines and brandy	3	2293	Padding and upholstery filling
4	2085	Distilled liquor except brandy	4	2294	Processed textile waste
5	2086	Bottled and canned soft drinks	5	2295	Coated fabric, not rubberized
6	2087	Flavorings	6	2296	Tire cord and fabric
			7	2297	Scouring and combing plants
20H-1	2091	Cottonseed oil mills	8	2298	Cordage and twine
2	2092	Soybean oil mills	9	2299	Textile goods, n.e.c.
3	2093	Vegetable oil mills, n.e.c.			
4	2094	Animal and marine fats and oils	23A-1	2311	Men's and boys' suits and coats
5	2096	Shortening and cooking oils	2	2321	Men's dress shirts and nightwear
20I-1	2095	Roasted coffee	3	2322	Men's and boys' underwear
2	2097	Manufactured ice	4	2323	Men's and boys' neckwear
3	2098	Macaroni and spaghetti	5	2327	Separate trousers
4	2099	Food preparations, n.e.c.	6	2328	Work clothing
			7	2329	Men's and boys' clothing, n.e.c.
21A-1	2111	Cigarettes			
2	2121	Cigars	23B-1	2331	Blouses
3	2131	Chewing and smoking tobacco	2	2335	Dresses
4	2141	Tobacco stemming and redrying	3	2337	Women's suits, coats and skirts
			4	2339	Women's outerwear, n.e.c.
22A-1	2211	Weaving mills, cotton			
2	2221	Weaving mills, synthetics	23C-1	2341	Women's and children's underwear
3	2231	Weaving, finishing mills, wool	2	2342	Corsets and allied garments
4	2241	Narrow fabric mills	3	2351	Millinery
			4	2352	Hats and caps
22B-1	(2251	Hosiery	5	2361	Children's dresses and blouses
	(2252		6	2363	Children's coats and suits
2	2259	Knitting mills, n.e.c.	7	2369	Children's outerwear, n.e.c.
3	2253	Knit outerwear mills			
4	2254	Knit underwear mills	23D-1		Release cancelled
5	2256	Knit fabric mills	2	2381	Fabric dress and work gloves
			3	2384	Robes and dressing gowns
22C-1	2261	Finishing plants, cotton	4	2385	Waterproof outer garments
2	2262	Finishing plants, synthetic	5	2386	Leather and sheep lined clothing
3	2269	Finishing plants, n.e.c.	6	2387	Apparel belts
			7	2389	Apparel, n.e.c.
22D-1	2271	Woven carpets and rugs			
2	2272	Tufted carpets and rugs			
3	2279	Carpets and rugs, n.e.c.			
22E-1	2281	Yarn mills, except wool			
2	2282	Throwing and winding mills			
3	2283	Wool yarn mills			
4	2284	Thread mills			



Report Number	SIC Code	Industry	Report Number	SIC Code	Industry
MC63(P) -			MC63(P) -		
23E-1	2391	Curtains and draperies	26C-1	2651	Folding paperboard boxes
2	2392	Housefurnishings, n.e.c.	2	2652	Set-up paperboard boxes
3	2393	Textile bags	3	2653	Corrugated shipping containers
4	2394	Canvas products	4	2654	Sanitary food containers
5	(2395	Pleating, stitching, and	5	2655	Fiber cans, tubes, drums, etc.
	(2396	apparel findings			
6	2399	Textile products, n.e.c.	27A-1	2711	Newspapers
24A-1		Release cancelled	2	2721	Periodicals
2	2421	Sawmills and planing mills	3	2731	Books, publishing and printing
3	2426	Hardwood dimension and flooring	4	2732	Book printing
4	2429	Special product sawmills, n.e.c.	5	2741	Miscellaneous publishing
24B-1	2431	Millwork plants	27B-1	(2751	Commercial printing
2	2432	Veneer and plywood plants		(2752	
3	2433	Prefabricated wood products	2		Release cancelled
24C-1	2441	Nailed wooden boxes and shooks	3	2753	Engraving and plate printing
2	2442	Wirebound boxes and crates	4	2761	Manifold business forms
3	2443	Veneer and plywood containers	27C-1	2771	Greeting card manufacturing
4	2445	Cooperage	2	2782	Blankbooks; looseleaf binders
5	2491	Wood preserving	3	2789	Bookbinding and related work
6	2499	Wood products, n.e.c.	4	2791	Typesetting
25A-1	2511	Wood furniture, not upholstered	5	2793	Photoengraving
2	2512	Wood furniture, upholstered	6	2794	Electrotyping and stereotyping
3	2514	Metal household furniture	28A-1	2812	Alkalies and chlorine
4	2515	Mattresses and bedsprings	2	2813	Industrial gases
25B-1	2521	Wood office furniture	3	2814	Cyclic (coal tar) crudes
2	2522	Metal office furniture	4	2815	Intermediate coal tar products
3	2531	Public building furniture	5	2816	Inorganic pigments
4	(2541	Partitions and fixtures	6	2818	Organic chemicals, n.e.c.
	(2542		7	2819	Inorganic chemicals, n.e.c.
5		Release cancelled	28B-1	2821	Plastics materials and resins
6	2591	Venetian blinds and shades	2	2822	Synthetic rubber
26A-1	2621	Paper mills, except building	3	2823	Cellulosic man-made fibers
2	2631	Paperboard mills	4	2824	Organic fibers, noncellulosic
3	2661	Building paper and board mills	28C-1	2831	Biological products
26B-1	2641	Paper coating and glazing	2	2833	Medicinals and botanicals
2	2642	Envelopes	3	2834	Pharmaceutical preparations
3	2643	Bags, except textile bags	28D-1	2841	Soap and other detergents
4	2644	Wallpaper	2	2842	Polishes and sanitation goods
5	2645	Die cut paper and board	3	2843	Surface active agents
6	2646	Pressed and molded pulp goods	4	2844	Toilet preparations
7	(2647	Sanitary paper products and			
	(2649	Converted paper products, n.e.c.			





Report Number	SIC Code	Industry
MC63(P)-		
28E-1	2851	Paints and allied products
2	2861	Gum and wood chemicals
28F-1	(2871	Fertilizers and
	(2872	Fertilizers, mixing only
2		Release cancelled
3	2879	Agricultural chemicals, n.e.c.
28G-1	2891	Glue and gelatin
2	2892	Explosives
3	2893	Printing ink
4	2895	Carbon black
5	2899	Chemical preparations, n.e.c.
29A-1	(2911	Petroleum refining and
	(2992	Lubricating oils and greases
2	2951	Paving mixtures and blocks
3	2952	Asphalt felts and coatings
30A-1	3011	Tires and inner tubes
2	3021	Rubber footwear
3	3031	Reclaimed rubber
4	3069	Rubber products, n.e.c.
5	3079	Plastics products, n.e.c.
31A-1	3111	Leather tanning and finishing
2	3121	Industrial leather belting
3	3131	Footwear cut stock
4	(3141	Shoes, except rubber and
	(3142	house slippers
31B-1	3151	Leather gloves
2	3161	Luggage
3	3171	Handbags and purses
4	3172	Small leather goods
5	3199	Leather goods, n.e.c.
32A-1	3211	Flat glass
2	3221	Glass containers
3	3231	Products of purchased glass
4	3229	Pressed and blown glass, n.e.c.
32B-1	3241	Cement, hydraulic
2	3251	Brick and structural tile
3	3253	Ceramic wall and floor tile
4	3255	Clay refractories
5	3259	Structural clay products, n.e.c.

Report Number	SIC Code	Industry
MC63(P)-		
32C-1	3261	Vitreous plumbing fixtures
2	3262	Vitreous china food utensils
3	3263	Earthenware food utensils
4	3264	Porcelain electrical supplies
5	3269	Pottery products, n.e.c.
32D-1	3271	Concrete block and brick
2	3272	Other concrete products
3	3273	Ready-mixed concrete
4	3274	Lime
5	3275	Gypsum products
6	3281	Cut stone and stone products
32E-1	3291	Abrasive products
2	3292	Asbestos products
3	3293	Gaskets and insulations
4		Release cancelled
5	3296	Mineral wool
6	3297	Nonclay refractories
33A-1	3312	Blast furnaces and steel mills
2	3313	Electrometallurgical products
3	3315	Steel wire drawing, etc.
4	3316	Cold finishing of steel shapes
5	3317	Steel pipe and tube
33B-1	3321	Gray iron foundries
2	3322	Malleable iron foundries
3	3323	Steel foundries
33C-1	3331	Primary copper
2	3332	Primary lead
3	3333	Primary zinc
4	3334	Primary aluminum
5	3341	Secondary nonferrous metals
33D-1	3351	Copper rolling and drawing
2	3352	Aluminum rolling and drawing
3	3356	Rolling and drawing, n.e.c.
4	3357	Nonferrous wire drawing, etc.
5	3361	Aluminum castings
6	3362	Brass, bronze, copper castings
7	3369	Nonferrous castings, n.e.c.
33E-1	3391	Iron and steel forgings
2	3392	Nonferrous forgings
3	3399	Primary metal industries, n.e.c.



Report Number	SIC Code	Industry	Report Number	SIC Code	Industry
MC63(P)-			MC63(P)-		
34A-1	3411	Metal cans	35D-1	3551	Food products machinery
2	3421	Cutlery	2	3552	Textile machinery
3	3423	Hand and edge tools	3	3553	Woodworking machinery
4	3425	Hand saws and saw blades	4	3554	Paper industries machinery
5	3429	Hardware, n.e.c.	5	3555	Printing trades machinery
34B-1	3431	Plumbing fixtures	6	3559	Special industry machines, n.e.c.
2	3432	Plumbing fittings, brass goods	7	3569	General industry machines, n.e.c.
3	3433	Heating equipment except electric			
34C-1	3441	Fabricated structural steel	35E-1	3561	Pumps and compressors
2	3442	Metal doors, sash, and trim	2	3562	Ball and roller bearings
3	3443	Boiler shop products	3	3564	Blowers and fans
4	3444	Sheet metal work	4	3565	Industrial patterns
5	(3446 3449)	Miscellaneous metal work, n.e.c.	5	3566	Power transmission equipment
34D-1	3451	Screw machine products	6	3567	Industrial furnaces and ovens
2	3452	Bolts, nuts, rivets and washers	35F-1	3571	Computing and related machines
3	3461	Metal stampings	2	3572	Typewriters
34E-1	3481	Fabricated wire products, n.e.c.	3	3576	Scales and balances
2	3491	Metal barrels, drums and pails	4	3579	Office machines, n.e.c.
3	3492	Safes and vaults			
4	3493	Steel springs	35G-1	3581	Automatic vending machines
5	3494	Valves and pipe fittings	2	3582	Commercial laundry equipment
6	3496	Collapsible tubes	3	3585	Refrigeration machinery
7	3497	Metal foil and leaf	4	3586	Measuring and dispensing pumps
8	3498	Fabricated pipe and fittings	5	3589	Service industry machines, n.e.c.
35A-1	3511	Steam engines and turbines	36A-1	3611	Electric measuring instruments
2	3519	Internal combustion engines	2	3612	Transformers
3	3522	Farm machinery and equipment	3	3613	Switchgear and switchboards
35B-1	3531	Construction machinery	4	3621	Motors and generators
2	3532	Mining machinery and equipment	5	3622	Industrial controls
3	3533	Oil field machinery	6	3623	Electric welding apparatus
4	3534	Elevators and moving stairways	7	3624	Carbon and graphite products
5	3535	Conveyors	8	3629	Electric industrial goods, n.e.c.
6	3536	Hoists, cranes, and monorails			
7	3537	Industrial trucks and tractors	36B-1	3631	Household cooking equipment
35C-1	3541	Metal-cutting machine tools	2	3632	Household refrigerators
2	3542	Metal-forming machine tools	3	3633	Household laundry equipment
3	3544	Special dies and tools	4	3634	Electric housewares and fans
4	3545	Machine tool accessories	5	3635	Household vacuum cleaners
5	3548	Metalworking machinery, n.e.c.	6	3636	Sewing machines
			7	3639	Household appliances, n.e.c.





Report Number	SIC Code	Industry	Report Number	SIC Code	Industry
MC63(P) -			MC63(P) -		
36C-1	3641	Electric lamps	38A-1	3811	Scientific instruments
2	3642	Lighting fixtures	2	3821	Mechanical and measuring devices
3	3643	Current carrying devices	3	3822	Automatic temperature controls
4	3644	Noncurrent carrying devices	4	3831	Optical instruments and lenses
			5	3841	Surgical and medical instruments
36D-1	3651	Radio and TV receiving sets	6	3842	Surgical appliances and supplies
2	3652	Phonograph records	7	3843	Dental equipment and supplies
3	3661	Telephone; telegraph apparatus	8	3851	Ophthalmic goods
4	3662	Radio, TV communications equipment	38B-1	3861	Photographic equipment
5	3671	Electron tubes, receiving type	2	3871	Watches and clocks
6	3672	Cathode ray picture tubes	3	3872	Watchcases
7	3673	Electron tubes, transmitting	39A-1	3911	Jewelry, precious metal
8	3674	Semiconductors	2	3912	Jewelers' findings and materials
9	3679	Electronic components, n.e.c.	3	3913	Lapidary work
			4	3914	Silverware and plated ware
36E-1	3691	Storage batteries	39B-1	3931	Musical instruments and parts
2	3692	Primary batteries, dry and wet	2	3941	Games and toys
3	3693	X-ray apparatus and tubes	3	3942	Dolls
4	3694	Engine electrical equipment	4	3943	Children's vehicles
			5	3949	Sporting and athletic goods
37A-1	3713	Truck and bus bodies	39C-1	3951	Pens and mechanical pencils
2	3715	Truck trailers	2	3955	Carbon paper and inked ribbons
3	3717	Motor vehicles and parts	3	3961	Costume jewelry
			4	3964	Needles, pins, and fasteners
37B-1	3721	Aircraft	39D-1	3981	Brooms and brushes
2	3722	Aircraft engines and parts	2	3982	Hard surface floor coverings
3	3723	Aircraft propellers and parts	3	3988	Morticians' goods
4	3729	Aircraft equipment, n.e.c.	4	3993	Signs and advertising displays
37C-1	3731	Ship building and repairing	19A-1	(1911	Ordnance and accessories
2	3732	Boat building and repairing		(1929	(except missiles)
3	3741	Locomotives and parts		(1931	
4	3742	Railroad and street cars		(1941	
5	3751	Motorcycles, bicycles, and parts		(1951	
6	3791	Trailer coaches		(1961	
7	3799	Transportation equipment, n.e.c.		(1999	
			2	1925	Missiles and space vehicles







# 1963 CENSUS OF MANUFACTURES

MC63(P)-29A-1



INDUSTRY SERIES

preliminary  
report

## Petroleum refining and Lubricating oils and greases

SIC Codes 2911 and 2992

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Petroleum Refining Industry (SIC 2911) shipped products valued at \$16,505 million, an increase of 14 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 18 percent from 1958 and 3 percent from 1962 to a total of 119 thousand employees in 1963. Value added by manufacture amounted to \$2,980 million in 1963, an increase of 41 percent over 1958, but approximately the same as 1962.

Manufacturers in the Lubricating Oils and Greases Industry (SIC 2992) shipped products during 1963 valued at \$446 million, an increase of 59 percent over 1958. Average employment in this industry showed a slight increase over 1958 to a total of 7.6 thousand employees, and value added by manufacture amounted to \$187 million in 1963, an increase of 81 percent for the same period.

The Petroleum Refining Industry includes establishments engaged primarily in producing gasoline, kerosene, fuel oils, lubricants, and other products from crude petroleum and its fractionation products either through straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking or other processes. Establishments primarily engaged in re-refining or reclaiming used oils (crankcase drainings) by a

Table 1A.—GENERAL STATISTICS FOR THE PETROLEUM REFINING INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 2911)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	430	299	119,098	920,796	85,026	166,114	611,928	2,979,524	13,424,528	16,504,583	385,501	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	122,946	906,561	87,804	173,348	603,032	2,965,537	12,979,535	15,914,146	433,315	3
1961 <sup>2</sup> .....	(NA)	(NA)	128,707	937,130	92,389	182,211	629,634	2,929,207	12,734,155	15,618,609	459,298	2
1960 <sup>2</sup> .....	(NA)	(NA)	134,868	935,836	97,267	192,379	635,211	2,773,430	12,713,407	15,505,100	455,453	2
1959 <sup>2</sup> .....	(NA)	(NA)	137,133	944,313	100,064	195,984	645,068	2,458,208	12,621,902	15,090,067	407,716	1
1958.....	446	313	146,025	944,332	106,898	207,609	648,278	2,119,402	12,249,444	14,539,055	656,788	(X)
1954 <sup>3</sup> .....	409	316	153,072	816,120	113,829	223,116	570,791	1,918,020	10,258,714	12,182,245	656,033	(X)
1947 <sup>3</sup> .....	437	(NA)	145,806	535,781	113,847	237,506	396,236	1,494,474	5,129,234	6,623,708	316,370	(X)
1939 <sup>3</sup> .....	518	(NA)	(NA)	(NA)	72,982	(NA)	128,420	528,575	1,933,921	2,462,496	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

August 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, A. Ross Eckler, Director





distillation process are also included in this industry. Refineries engaged in blending and compounding lubricants are included in Industry 2911 but establishments primarily engaged in blending and compounding lubricants from purchased materials are classified in Industry 2992, Lubricating Oils and Greases. Establishments engaged in producing natural gasoline or cycle condensates from natural gas are classified in Mineral Industries, and petroleum bulk stations or distribution terminals are classified in wholesale trade. Activities relating to pipe-line and other long distance transportation facilities are classified as transportation and were excluded from the 1963 Census of Business, Manufactures, and Mineral Industries.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Petroleum Refining, and Lubricating Oils and Greases Industries consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Petroleum Refining and the Lubricating Oils and Greases Industries amounted to \$16,505 million, and \$446 million respectively.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$15,460 million of petroleum refinery products, and lubricating oils and greases were shipped by all producers of these products.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1A, 1B, and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1A, 1B, and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 1B.—GENERAL STATISTICS FOR THE LUBRICATING OILS AND GREASES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 2992)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	338	103	7,601	52,769	4,086	8,625	23,283	186,641	261,604	446,026	4,381
1958.....	306	90	7,568	42,349	4,484	8,588	20,441	103,084	177,521	281,377	7,230
1954 <sup>3</sup> .....	283	84	8,159	40,062	4,702	9,414	18,912	90,661	172,639	265,111	4,314
1947 <sup>3</sup> .....	275	(NA)	8,002	26,263	5,070	(NA)	13,421	80,289	119,068	199,357	(NA)
1939 <sup>3</sup> .....	199	(NA)	(NA)	(NA)	1,986	(NA)	2,507	19,414	28,274	47,688	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.



## 1963 CENSUS OF MANUFACTURES

Table 2.—GENERAL STATISTICS FOR THE PETROLEUM REFINING, AND LUBRICATING OILS AND GREASES INDUSTRIES BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC codes 2911 and 2992)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)	All employ- ees, number	Value added by manufac- ture (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
Petroleum re- fining (SIC 2911), total	430	299	119,098	920,796	85,026	166,114	611,928	2,979,524	13,424,528	16,504,583	385,501	146,025	2,119,402
Northeast.....	49	33	18,447	142,807	13,880	27,770	100,596	366,165	1,953,575	2,326,899	33,992	24,492	216,949
New Jersey.....	13	9	5,813	48,317	4,140	8,079	31,831	177,150	870,730	1,055,806	8,297	8,191	68,918
Pennsylvania....	23	16	11,393	84,995	8,862	17,970	61,965	164,686	896,173	1,059,830	24,370	14,112	128,768
East North Central	68	48	19,350	154,571	14,090	27,028	103,480	495,444	2,214,682	2,710,833	26,032	25,347	409,878
Ohio.....	15	11	3,559	29,209	2,610	5,095	20,303	102,126	591,450	697,620	5,131	4,595	101,480
Indiana.....	14	11	6,542	52,290	4,897	9,293	36,486	137,872	601,327	743,370	6,964	9,156	108,348
Illinois.....	16	12	7,024	55,862	5,022	9,128	35,144	179,300	795,867	969,882	11,355	9,377	157,209
Michigan.....	16	10	1,968	15,502	1,387	3,143	10,425	71,831	199,219	269,214	2,063	1,982	39,823
Wisconsin.....	7	4	257	1,708	174	369	1,122	4,315	26,819	30,747	519	237	3,018
West North Central	29	23	5,481	40,951	4,065	8,563	28,058	164,379	663,836	821,186	32,658	6,479	121,647
Kansas.....	17	14	3,698	26,143	2,918	6,173	19,358	106,994	432,902	533,712	15,806	4,169	69,595
South Atlantic....	21	14	2,061	16,238	1,374	2,829	9,582	94,561	336,205	429,400	(D)	2,133	51,933
East South Central	17	11	1,516	12,022	1,131	2,267	7,221	50,773	262,216	296,454	(D)	1,585	35,777
West South Central	136	101	49,611	390,345	35,236	68,317	254,708	1,209,011	5,730,864	7,051,517	142,726	61,537	885,231
Arkansas.....	8	6	1,005	7,456	767	1,562	5,456	20,555	92,467	112,025	834	1,154	15,622
Louisiana.....	19	17	10,004	81,372	5,975	11,730	44,194	257,882	1,140,321	1,409,585	26,728	13,123	190,981
Oklahoma.....	23	15	5,198	35,073	4,205	8,230	27,895	109,387	538,254	640,228	4,307	6,136	106,606
Texas.....	86	63	33,404	266,444	24,289	46,795	177,163	821,187	3,959,822	4,889,679	110,857	41,124	572,022
Mountain.....	44	30	4,934	36,506	3,465	6,908	24,972	105,579	422,774	532,985	21,713	5,669	97,788
Colorado.....	12	7	708	5,271	554	1,123	3,995	14,367	52,091	65,825	1,332	591	10,609
Pacific.....	66	39	17,698	127,356	11,785	22,432	83,311	493,617	1,840,376	2,335,309	69,679	18,783	300,199
California.....	51	32	16,288	116,188	10,870	20,632	76,656	430,339	1,591,136	2,024,864	54,081	17,633	269,563
Lubricating oils and greases (SIC 2992), total	338	103	7,601	52,769	4,086	8,625	23,283	186,641	261,604	446,026	4,381	7,568	103,084
Northeast.....	98	35	2,462	18,455	1,357	2,873	8,126	56,388	80,923	135,742	1,276	2,867	39,579
Pennsylvania....	37	16	1,277	10,369	649	1,400	3,951	21,965	30,523	52,020	548	1,098	16,327
East North Central	104	36	2,622	19,160	1,275	2,637	7,514	65,592	85,183	150,226	1,824	2,436	36,831
Illinois.....	30	13	1,078	7,705	566	1,223	3,147	28,144	39,193	67,154	1,149	769	12,103
West North Central	32	16	1,079	6,310	575	1,162	2,996	34,657	38,260	72,931	(1)	758	10,662
Missouri.....	14	8	514	3,143	235	461	1,281	16,364	17,436	33,846	(1)	346	6,242
South.....	54	10	971	5,518	587	1,346	2,959	13,488	39,876	53,196	605	999	8,666
West South Central.....	31	6	687	3,994	426	977	2,286	10,050	32,424	42,169	(1)	699	5,781
Louisiana.....	6	3	389	2,542	277	622	1,668	6,774	24,772	31,179	(1)	395	4,593
West.....	50	6	467	3,326	292	607	1,688	16,516	17,362	33,931	(1)	508	7,352
California.....	41	5	413	2,915	257	529	1,483	13,846	15,271	29,156	(1)	460	5,643

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in these or associated industries or areas, or (b) because these industries were of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on these industries.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF PETROLEUM REFINING AND LUBRICATING OILS AND GREASES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Petroleum Refining, and Lubricating Oils and Greases Industries but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963				1958			
			Receipts <sup>1</sup>	Total shipments including interplant transfers		Net shipments <sup>2</sup>	Receipts <sup>1</sup>	Total shipments including interplant transfers		Net shipments <sup>2</sup>
				Quantity	Value (ex-cluding tax) (\$1,000)			Quantity	Value (ex-cluding tax) (\$1,000)	
2911- -- 2992- --	Petroleum products, total.....	.....	(X)	(X)	15,460,058	(X)	(X)	(X)	14,133,967	(X)
29111 -- 29111 11	Gasoline and jet fuel.....	1,000 barrels	46,000	1,682,687	8,123,331	1,636,687	38,768	1,525,508	7,825,021	1,486,740
29111 31	Aviation gasoline (except jet-propulsion fuel).....	..do.....	31,183	90,803	488,816	3180,452	437,560	113,724	733,058	1,408,949
29111 51	Automotive gasoline.....	..do.....	16,031	1,442,439	7,030,966	1,426,408		1,299,745	6,628,060	
29111 98	Jet-propulsion fuel, excluding kerosene.....	..do.....	( <sup>3</sup> )	90,832	349,121	( <sup>3</sup> )	1,208	78,999	306,330	77,791
	Other finished gasolines, including finished base stocks and blending agents <sup>5</sup> .....	..do.....	28,786	58,613	254,428	29,827	( <sup>4</sup> )	33,040	157,573	( <sup>4</sup> )
29112 -- 29112 13 29112 19	Kerosene.....	..do.....	3,800	163,455	632,481	159,655	2,156	102,549	411,720	100,393
	Kerosene jet-propulsion fuel.....	..do.....	3,800	72,453	271,135	159,655	2,156	102,549	411,720	100,393
	All other kerosene <sup>6</sup> .....	..do.....		91,002	361,346					
29113 -- 29113 11 29113 31 29113 51 29113 98	Distillate fuel oil.....	..do.....	(X)	(X)	2,797,181	(X)	18,521	661,316	2,490,886	642,795
	Grade No. 1.....	..do.....	5,201	61,010	248,424	55,809	(X)	57,622	238,175	(X)
	Grades No. 2-4.....	..do.....	4,921	530,345	1,900,758	525,424	(X)	453,380	1,692,118	(X)
	Diesel-type fuel oil (light).....	..do.....	979	161,891	576,376	160,912	(X)	132,985	497,449	(X)
	All other distillate fuel oils, including light gas-enrichment oil.....	..do.....	1,578	20,236	70,892	18,658	(X)	17,329	63,144	(X)
29113 00	Distillate fuel oil, not specified by kind.....	.....	(X)	(X)	731	(X)	(X)	(X)	(X)	(X)
29114 -- 29114 11	Residual fuel oil.....	1,000 barrels	22,166	279,579	610,056	257,413	17,295	350,892	817,184	333,597
	Grade No. 5, including Navy special.....	..do.....	10,784	27,615	70,652	207,787	(X)	46,940	118,247	(X)
	Grade No. 6, including Bunker C.....	..do.....		182,052	382,779		(X)	264,254	592,192	(X)
	Diesel-type fuel oil (heavy).....	..do.....		78,904	719,388		(X)	8,820	24,345	(X)
29114 51 29114 98	Other residual fuel oils, including heavy gas-enrichment oil.....	..do.....	11,382	61,008	137,237	49,626	(X)	30,568	81,361	(X)
29114 00	Residual fuel oil, not specified by kind.....	..do.....	-	( <sup>7</sup> )	( <sup>7</sup> )	-	(X)	310	1,039	(X)
29115 -- 29115 11	Liquefied refinery gases and aromatics, including feed stocks <sup>8</sup> 9	1,000 barrels	42,882	190,464	868,978	147,582	22,363	106,177	560,029	83,814
	For direct internal-combustion engine use (not included in gasoline above), excluding acetylene.....	..do.....	(X)	( <sup>10</sup> )	( <sup>10</sup> )	(X)	(X)	5,684	10,524	(X)
	Chemical raw material, including synthetic rubber components: Aliphatics: <sup>11</sup>									
29115 51 29115 55	Ethylene.....	..do.....	(X)	21,097	149,902	(X)	(X)	3,783	41,960	(X)
	Other aliphatics, including feedstock mixtures.....	..do.....	(X)	41,745	293,755	(X)	(X)	26,098	273,219	(X)
29115 88	Aromatics (including benzene, toluene, xylenes, etc.) <sup>11</sup> .....	..do.....	(X)	31,299	236,177	(X)	(X)	7,962	64,759	(X)
29115 98	Other liquefied gases.....	..do.....	(X)	1096,323	10189,144	(X)	(X)	62,650	169,567	(X)
29118 -- 29118 12	Unfinished oils, and lubricating oil base stock <sup>12</sup> .....	1,000 barrels	105,017	112,461	526,644	7,444	121,508	93,367	440,885	28,141
	Unfinished oils, including cracking stock, and topped and enriched petroleum <sup>13</sup> .....	..do.....	93,620	88,009	326,010	-5,611	96,508	71,396	276,913	-25,112
29118 51	Lubricating-oil petroleum base stocks (for blending, compounds, and grease manufacture) <sup>14</sup> .....	..do.....	11,397	24,452	200,634	13,055	25,000	21,971	163,972	-3,029
29119 -- 29119 11	Asphalt.....	.....	(X)	(X)	364,335	(X)	(X)	(X)	284,629	(X)
	200 penetration and over (including emulsified asphalt produced at the refinery) <sup>15</sup> .....	1,000 barrels	(D)	34,132	114,880	(D)	(X)	37,586	119,487	(X)
29119 51	Less than 200 penetration <sup>16</sup> .....	1,000 short tons.....	(D)	13,523	249,455	(D)	(X)	8,645	160,847	(X)
29119 00	Asphalt, not specified by kind.....	.....	(X)	(X)	(X)	(X)	(X)	(X)	4,295	(X)
29110 -- 29110 11 29110 21	Other finished petroleum products, including waxes <sup>9</sup> .....		(X)	(X)	375,184	(X)	(X)	(X)	421,060	(X)
	Petroleum.....	1,000 barrels	514	1,695	26,462	1,181	17,653	171,930	22,406	171,277
	Petroleum coke.....	1,000 short tons.....	(X)	4,873	50,050	(X)	(X)	3,514	39,735	(X)
29110 31 29110 41	Road oil <sup>18</sup> .....	1,000 barrels	(D)	8,441	25,054	(D)	(X)	10,371	29,166	(X)
	Still gas.....	million cubic feet.....	(D)	24,231	7,840	(D)	(X)	57,994	16,101	(X)
29110 51 29110 61 29110 71	Naphtha solvents <sup>19</sup> .....	1,000 barrels	1,831	19,404	117,510	17,573	(X)	20,397	135,651	(X)
	Microcrystalline wax <sup>20</sup> .....	..do.....	360	1,454	31,736	6,458	17,426	171,036	27,500	175,703
	Refined and semi-refined crystalline wax.....	..do.....		4,279	48,137			174,332	75,723	
	Crude-scale crystalline wax.....	..do.....		1,063	9,369			17,761	10,226	
	Other finished petroleum products.....	..do.....		(X)	59,026	(X)	(X)	(X)	64,552	
29110 81 29110 98 29110 00	Products of petroleum refining, not specified by kind.....	.....	(X)	(X)	13,286	(X)	(X)	(X)	(X)	(X)

See footnotes at end of table.

Table 3.—QUANTITY AND VALUE OF PETROLEUM REFINING AND LUBRICATING OILS AND GREASES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Unit of measure	1963				1958			
			Receipts <sup>1</sup>	Total shipments including interplant transfers		Net shipments <sup>2</sup>	Receipts <sup>1</sup>	Total shipments including interplant transfers		Net shipments <sup>2</sup>
				Quantity	Value (ex-cluding tax) (\$1,000)			Quantity	Value (ex-cluding tax) (\$1,000)	
			(quantity)			(quantity)	(quantity)			(quantity)
29116 --	Lubricants and similar oils <sup>21</sup> .....		(X)	(X)	1,018,559	(X)	(X)	(X)	772,362	(X)
29926 --	Containing petroleum oils.....	1,000 barrels	(X)	61,670	1,001,989	(X)	(X)	52,946	748,185	(X)
29116 11	Made in petroleum refineries....	do.....	2,087	48,488	678,331	46,401	2,718	44,993	583,345	42,275
29926 11	Made in lubricants, n.e.c., industry.....	do.....	5,801	12,212	296,154	6,411	2,146	7,207	157,703	4,986
	Made in other manufacturing industries.....	do.....	(X)	970	27,504	(X)	(X)	821	15,652	(X)
	Containing animal and vegetable oils only.....	do.....	(X)	399	14,040	(X)	(X)	356	17,007	(X)
29116 51	Made in petroleum refineries....	do.....	(X)	(22)	(22)	(X)	(X)	(22)	(22)	(X)
29926 51	Made in lubricants, n.e.c., industry.....	do.....	121	262	11,141	141	114	225	6,713	186
	Made in other manufacturing industries.....	do.....	(X)	22137	222,899	(X)	(X)	2256	221,779	(X)
	Lubricants and similar oils, not specified by kind.....		(X)	(X)	2,530	(X)				
29116 00	Made in petroleum refineries....		(X)	(X)	435	(X)				
29926 00	Made in other manufacturing industries.....		(X)	(X)	2,095	(X)	(X)	(X)	7,170	(X)
29117 --	Lubricating greases <sup>23</sup> .....		(X)	(X)	125,767	(X)	(X)	(X)	100,347	(X)
29927 --	Containing petroleum oils.....	1,000 barrels	(X)	5,177	121,194	(X)	(X)	243,027	95,277	(X)
29117 11	Made in petroleum refineries....	do.....	87	3,115	50,558	3,028	2433	242,005	54,270	241,972
29927 11	Made in lubricants, n.e.c., industry.....	do.....	570	1,972	67,313	1,402	(NA)			(NA)
	Made in other manufacturing industries.....	do.....	(X)	90	3,323	(X)	(X)	1,022	41,007	(X)
	Containing animal and vegetable oils only.....	do.....	(X)	128	4,573	(X)	(X)	2468	2,702	(X)
29117 51	Made in petroleum refineries....	do.....		38	1,254	(D)	(NA)			(NA)
29927 51	Made in lubricants, n.e.c., industry.....	do.....	91			(D)	(NA)	2468	2,702	(NA)
	Made in other manufacturing industries.....	do.....	(X)	90	3,319	(X)	(X)			(X)
	Lubricating greases, not specified by kind:									
29117 00	Made in petroleum refineries....		-	-	-	-	(X)	(X)		(X)
29927 00	Made in other manufacturing industries.....		(X)	(X)		(X)	(X)	(X)	2,368	(X)
29920 00	Lubricants, n.e.c., not specified by kind.....		(X)	(X)	4,256	(X)	(X)	(X)	9,844	(X)

- Represents zero. n.e.c. Not elsewhere classified. (D) Withheld to avoid disclosing figures for individual companies.  
(NA) Not available. (X) Not applicable. Revised.

<sup>1</sup>Reporting companies were requested to classify items in the same manner as billed by the shipper regardless of how the refinery (or blending and compounding establishments) would otherwise classify them.

<sup>2</sup>Represents the difference between "Total shipments" (Quantity) and "Receipts" (Quantity).

<sup>3</sup>Product code 2911151 included with code 2911111 for 1963.

<sup>4</sup>Product code 2911198 included with codes 2911111 and 2911131 for 1958.

<sup>5</sup>Includes all finished gasolines (other than aviation and automotive gasoline), finished base stocks, and blending agents such as alkylate, polymers (dimer, codimer, etc.), hydrocarbons (hydrodimer, hydrocodimer, etc.) cumene, isopentane, isohexane, neohexane, isooctane, iso-octane, motor benzol (benzene), and other blending agents derived from petroleum (excludes natural gasolines).

<sup>6</sup>Includes range oils, signal oil, mineral seal oil, mineral colza oil, longtime burning oil, 300° oil, and insecticide base.

<sup>7</sup>Product code 2911400 included with 2911451 for 1963.

<sup>8</sup>Includes ethane, propane, propene, butane, butene, propane-butane mixtures, pentane, butadiene, and other liquefied hydrocarbon gases. Receipts and shipments exclude liquefied petroleum gases from natural gasoline plants.

<sup>9</sup>1963 figures are not directly comparable with those for 1958 because Liquefied refinery gases and aromatics for 1963 (formerly defined as Liquefied petroleum gases), product class code 29115, include undetermined amounts previously reported as other finished petroleum products, product class code 29110.

<sup>10</sup>Product code 2911511, included in code 2911598 for 1963.

<sup>11</sup>Detailed product statistics for liquefied gases used as chemical raw material are published by the United States Tariff Commission in the report "Synthetic Organic Chemicals, United States Production and Sales."

<sup>12</sup>Although respondents were requested to report receipts in the same manner as billed by the shipper, the figures indicate that items billed as other oils by the shipper were sometimes reported as receipts of "unfinished oils" or "lubricating oil base stock" for the refinery receiving these oils.

<sup>13</sup>Includes such products as cracking stock, unfinished gasoline, requiring further distillation, naphtha stocks, soaps, wax distillate, and other unfinished petroleum oils. Excludes lubricating oil base stocks, natural gasoline and cycle condensates.

<sup>14</sup>Includes light, medium, neutral, heavy neutral, and residual stocks.

<sup>15</sup>Includes flux for paving, roofing, waterproofing, mastic, and other purposes; cut-back asphalt, emulsified asphalt and fluxes made in petroleum refineries, and other liquid asphaltic products except road oil and fuel oil used for heating purposes.

<sup>16</sup>Includes asphalt for paving, roofing, waterproofing, briquetting, mastic, pipe coating, molding composition, and other heavy asphalt products.

<sup>17</sup>1958 figure, which was previously published in quantities of thousand pounds, has been converted to thousand barrels on the basis of 280 pounds per barrel.

<sup>18</sup>Represents residual asphaltic oil used for surface treatment of road and highways.

<sup>19</sup>Includes petroleum ether, rubber solvent, mineral spirits (petroleum spirits), varnish makers' and painters' naphtha, high-solvency naphtha, benzol diluent, lacquer diluent, cleaners' naphtha, stoddard solvent, extraction solvents, and other petroleum distillates shipped as solvents.

<sup>20</sup>Represents amorphous paraffin of melting point not under 145°.

<sup>21</sup>Includes oils for lubricating purposes and such nonlubrication purposes as transformer oil, hydraulic oil, processing oil, quenching oil, and liquid rust preventative.

<sup>22</sup>Lubricants and similar oils containing animal and vegetable oils made in petroleum refineries, product code 2911651, are included in lubricants and similar oils containing animal and vegetable oils made in other manufacturing industries, code 2992651.

<sup>23</sup>Includes greases for aviation, automotive, industrial, and railroad uses; launching grease, and cutting, drawing, and grinding compounds and paste. Also includes paste rust-preventative compounds and thread compounds. See also footnote 21. Does not include "Lubricating greases, not specified by kind, made in other manufacturing industries" (product code 2992700).

<sup>24</sup>1958 figure, which was previously published in quantities of thousand pounds, has been converted to thousand barrels on the basis of 315 pounds per barrel.





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**OFFICIAL BUSINESS**

# 1963 CENSUS OF MANUFACTURES

MC63(P)-29A-2



INDUSTRY SERIES

preliminary  
report

## Paving mixtures and blocks

SIC Code 2951

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Paving Mixtures and Blocks Industry shipped products valued at \$417 million, an increase of 56 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 25 percent over 1958 to a total of 9.7 thousand employees in 1963. Value added by manufacture amounted to \$163 million in 1963, an increase of 45 percent over 1958.

The Paving Mixtures and Blocks Industry includes establishments engaged primarily in the manufacture of asphalt and tar paving mixtures, and paving blocks made of asphalt and various compositions of asphalt or tar with other materials. Establishments primarily engaged in manufacturing brick, concrete, and stone paving blocks are classified in Major Group 32. For a more detailed list of primary products of Industry 2951, refer to table 3.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957

Table 1.--GENERAL STATISTICS FOR THE PAVING MIXTURES AND BLOCKS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 2951)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	752	127	9,741	62,586	6,729	14,906	39,710	162,766	253,358	416,665	14,915
1958.....	563	89	7,797	42,028	5,823	11,708	28,130	112,548	154,949	267,676	9,856
1954 <sup>3</sup> .....	326	47	4,367	20,092	3,260	6,688	12,508	52,145	81,334	133,178	5,367
1947 <sup>3</sup> .....	264	(NA)	2,785	8,565	2,042	(NA)	5,618	23,249	27,728	50,977	(NA)
1939 <sup>3</sup> .....	231	(NA)	3,193	4,494	2,437	(NA)	2,681	13,728	19,026	32,754	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954, 1958, and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1939 and 1947, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Paving Mixtures and Blocks Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Paving Mixtures and Blocks Industry amounted to \$417 million. Of this total, \$25 million were products primary to other industries; and \$37 million were receipts for miscellaneous activities. The industry shipments of primary products represent 93 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 94 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$395 million of paving mixtures and blocks were shipped by all producers of these products. Of this total, \$355 million, or 90 percent, were shipped by plants classified in Industry 2951, Paving Mixtures and Blocks, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 85 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary

reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE PAVING MIXTURES AND BLOCKS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 2951)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	752	127	9,741	62,586	6,729	14,906	39,710	162,766	253,358	416,665	14,915	7,797	112,548
New England.....	62	12	931	6,254	652	1,466	3,535	14,793	25,140	40,150	1,679	771	9,468
Massachusetts....	33	9	592	3,918	404	997	2,284	9,451	15,076	24,910	935	391	5,722
Middle Atlantic...	197	28	2,068	14,187	1,395	3,134	9,226	38,951	61,047	100,613	3,585	1,697	29,976
New York.....	101	15	997	7,550	670	1,443	4,858	20,098	32,002	52,670	1,972	899	17,365
New Jersey.....	31	6	445	3,453	323	760	2,414	9,968	13,681	23,684	883	218	4,320
Pennsylvania.....	65	7	626	3,184	402	931	1,954	8,885	15,364	24,299	730	580	8,291
East North Central	153	26	1,969	13,478	1,418	2,997	8,210	33,254	49,955	82,915	2,496	1,632	22,025
Ohio.....	78	10	783	5,075	564	1,173	3,064	13,668	22,587	36,003	944	497	7,724
Illinois.....	20	4	430	3,168	274	629	1,683	6,232	8,684	14,869	558	473	4,990
Michigan.....	24	7	424	2,757	342	676	1,989	6,519	11,338	17,862	516	374	5,479
West North Central	32	4	353	2,354	275	652	1,756	7,289	8,291	15,642	( <sup>1</sup> )	471	5,869
South Atlantic....	102	18	1,674	8,869	1,232	2,972	6,162	20,769	44,398	65,402	2,594	1,060	14,458
Maryland.....	22	4	591	3,566	451	1,214	2,552	7,951	17,134	25,061	1,298	407	7,050
Florida.....	24	8	485	2,404	331	793	1,491	5,158	8,870	14,153	538	266	2,820
East South Central	54	6	538	2,710	354	710	1,654	11,464	15,234	26,749	744	451	5,998
Alabama.....	21	4	320	1,637	214	390	1,007	7,027	6,284	13,340	( <sup>1</sup> )	297	3,184
West South Central	41	7	503	2,104	400	913	1,572	4,929	8,487	13,417	( <sup>1</sup> )	302	3,040
Mountain.....	17	7	423	3,053	158	324	1,128	3,964	6,725	10,330	( <sup>1</sup> )	193	2,940
Pacific.....	94	19	1,282	9,577	845	1,738	6,467	27,353	34,081	61,447	2,625	1,220	18,774

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF PAVING MIXTURES AND BLOCKS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Paving Mixtures and Blocks Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 barrels)	Value (\$1,000)	Quantity (1,000 barrels)	Value (\$1,000)
2951- --	Paving mixtures and blocks, total.....	(X)	394,714	(X)	265,902
29510 --	Paving mixtures and blocks:				
	Liquid asphalt and tar paving materials:				
29510 11	Emulsified asphalt, including liquid additives <sup>1</sup> .....	(S)	47,972	6,544	34,257
29510 15	Other liquid asphalt and tar paving materials, including cut-backs...	(S)	28,516	2,528	14,687
29510 51	Asphalt and tar paving mixtures and blocks, including bituminous or asphaltic concrete, and asphaltic paving cements.....	(X)	292,322	(X)	195,844
29510 98	Other paving mixtures and blocks, except brick, concrete, or stone.....	(X)	8,841	(X)	5,432
29510 00	Paving mixtures and blocks, not specified by kind.....	(X)	17,063	(X)	15,682

(S) Does not meet publication standards. (X) Not applicable.

<sup>1</sup>Excludes data for quantities produced in petroleum refineries, which are included in the statistics for code 2911911, asphalt of 200 penetration and over, in Industry 2911, Petroleum Refining.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-29A-3



INDUSTRY SERIES

preliminary  
report

## Asphalt felts and coatings

SIC Code 2952

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Asphalt Felts and Coatings Industry shipped products valued at \$527 million, an increase of 15 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 6 percent from 1958 to a total of 15 thousand employees in 1963. Value added by manufacture amounted to \$190 million in 1963, an increase of 22 percent over 1958.

The Asphalt Felts and Coatings Industry includes establishments engaged primarily in the manufacture of asphalt and other saturated roofing felts in roll or shingle form, either smooth or faced with grit, and in manufacturing asphalt and tar cements and coatings.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date.

Table 1.--GENERAL STATISTICS FOR THE ASPHALT FELTS AND COATINGS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 2952)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	230	140	14,550	82,259	10,872	23,023	57,066	189,913	338,422	526,814	7,043
1958.....	209	128	15,520	77,444	11,541	24,009	54,007	156,487	304,421	460,104	6,613
1954 <sup>3</sup> .....	197	120	15,730	68,054	12,507	26,950	50,863	155,607	276,808	431,607	7,787
1947.....	174	(NA)	16,506	49,552	13,761	(NA)	38,435	132,565	205,654	338,219	(NA)
1939 <sup>3</sup> .....	135	(NA)	(NA)	(NA)	8,187	(NA)	10,032	48,079	62,359	110,438	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat. For 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954, 1958, and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1939 and 1947, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic

importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Asphalt Felts and Coatings Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Asphalt Felts and Coatings Industry amounted to \$527 million. Of this total, \$39 million were products primary to other industries; and \$58 million were receipts for miscellaneous activities. The industry shipments of primary products represented 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 90 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$459 million of asphalt felts and coatings were shipped by all producers of these products. Of this total, \$430 million, or 94 percent, were shipped by plants classified in Industry 2952, Asphalt Felts and Coatings, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 92.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also



their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.

Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE ASPHALT FELTS AND COATINGS INDUSTRY BY REGIONS AND STATES: 1963 AND 1958

(SIC code 2952)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	230	140	14,550	82,259	10,872	23,023	57,066	189,913	338,422	526,814	7,043	15,520	156,487
New England.....	9	5	619	3,527	506	1,109	2,654	7,126	13,293	20,289	312	665	6,205
Middle Atlantic...	37	21	2,235	13,632	1,764	3,754	10,214	28,924	61,348	90,103	1,916	2,755	27,111
New Jersey.....	16	11	1,410	8,799	1,133	2,402	6,753	18,543	38,964	57,470	1,748	1,659	17,366
East North Central	56	35	4,431	26,558	3,430	7,240	19,258	61,353	95,085	156,431	2,235	5,277	53,214
Ohio.....	17	11	1,366	8,420	1,048	2,219	6,020	21,530	21,161	42,828	1,143	1,558	19,607
Illinois.....	24	18	2,578	15,236	2,027	4,251	11,316	33,551	63,244	96,570	815	3,246	29,426
West North Central	14	9	936	5,524	750	1,627	3,989	10,501	22,663	32,962	406	961	9,245
South Atlantic....	29	16	1,205	6,305	951	2,075	4,651	18,372	39,217	57,124	582	1,083	11,592
Georgia.....	7	6	457	2,336	360	780	1,785	7,386	16,684	23,627	95	349	4,178
East South Central	12	7	597	2,640	458	941	1,835	5,661	11,246	16,973	334	528	4,196
West South Central	35	27	2,779	13,557	1,689	3,467	7,342	31,772	48,881	80,654	622	2,502	21,369
Louisiana.....	6	5	571	3,059	469	960	2,368	6,265	14,920	21,341	115	657	5,406
Texas.....	22	15	1,634	7,986	752	1,474	3,243	19,959	24,501	44,403	364	1,458	13,590
Mountain.....	8	4	271	1,356	206	438	901	3,578	5,527	9,074	151	124	1,070
Pacific.....	30	16	1,477	9,160	1,118	2,372	6,222	22,626	41,162	63,204	485	1,625	22,485
California.....	20	11	1,145	7,280	869	1,870	4,899	16,914	30,789	47,140	429	1,338	18,556

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3A.--QUANTITY AND VALUE OF ASPHALT FELTS AND COATINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Asphalt Felts and Coatings Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
2952- --	Asphalt felts and coatings, total.....		(X)	459,484	(X)	2407,069
29521 --	Asphalt and tar saturated felts and boards for nonbuilding use.....		(X)	20,743	(X)	20,465
29521 11	Felts, for other than building purposes (automotive, etc.).....	Short tons..	130,388	12,916	(S)	10,577
29521 31	Asphalt and tar products, except felts, coatings, cement, for nonbuilding use (i.e., automotive, etc.).....	do.....	200,697	7,827	(X)	8,905
29521 00	Asphalt and tar saturated felts and boards for nonbuilding use, not specified by kind.....		(X)	(X)	(X)	983
29522 --	Asphalt and tar coatings, cements, and pitches.....		(X)	94,495	(X)	267,931
29522 11	Solid asphalt roof cement.....	Short tons..	1,428,768	40,103	2852,202	226,087
29522 31	Coal tar roofing pitch.....	do.....	204,710	4,463	(X)	( <sup>1</sup> )
	Roofing coatings:					
29522 51	Fibrous.....	do.....	(S)	30,875	2411,507	221,617
29522 55	Nonfibrous.....	do.....	175,599	14,324	2190,669	211,662
29522 00	Asphalt and tar coatings, cements, and pitches, not specified by kind.....		(X)	4,730	(X)	28,565
29523 --	Asphalt and tar roofing and siding products <sup>2</sup> .....		(X)	340,519	(X)	2313,554
	Asphalt roofing:					
29523 11	Smooth-surfaced roll roofing and cap sheet, including sanded, talc, mica, and other fine material surfacing.....	1,000 sales squares....	11,479	17,161	10,246	17,752
29523 13	Mineral-surfaced roll roofing and cap sheet (including 17" and 19" selva edge).....	do.....	13,537	29,795	13,148	30,379
	Strip shingles:					
29523 14	Self-sealing.....	do.....	8,144	48,574	} 31,047	152,435
29523 16	Standard or regular.....	do.....	28,254	142,110		
29523 17	Individual shingles, all styles.....	do.....	4,430	22,585	4,348	19,862
	Asphalt building sidings:					
29523 31	Roll form and shingle form all patterns.....	do.....	780	2,063	1,071	2,980
29523 35	Mineral-surfaced insulating board base siding (all types and finishes).....	do.....	810	11,973	1,504	18,759
	Building felts:					
29523 51	Asphalt saturated felts for roofing and siding.....	Short tons..	336,084	51,461	881,141	33,335
29523 55	Tar saturated felts for roofing and siding.....	do.....	52,941	3,608	103,597	6,966
	Other asphalt and tar products:					
29523 98	For roofing and siding, including board products and sheathings.....		(S)	7,766	(S)	29,105
29523 00	Asphalt and tar roofing and siding products, not specified by kind.....		(X)	3,423	(X)	1,781
29520 00	Asphalt felts and coatings, not specified by kind.....		(X)	3,727	(X)	5,119

<sup>1</sup>Revised. (S) Does not meet publication standards. (X) Not applicable.

<sup>2</sup>Product code 295231 included with code 2952200 for 1958.

<sup>3</sup>Although these data should be considered preliminary, they supersede the figures published for comparable products in Current Industrial Reports Series, M29A(63)-13, Asphalt and Tar Roofing and Siding Products, Summary for 1963.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR ASPHALT FELTS AND COATINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
2952-	Asphalt felts and coatings.....1963...	115	103
	.....1958...	104	101
29522	Asphalt and tar coatings, cements, and pitches.....1963...	166	130
	.....1958...	119	130
29523	Asphalt and tar roofing and siding products..1963...	103	100
	.....1958...	97	98

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-30A-1



## INDUSTRY SERIES

preliminary  
report

### Tires and inner tubes

SIC Code 3011

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Tires and Inner Tubes Industry shipped products valued at \$2,951 million, an increase of 14 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 4.6 percent from 1958 to a total of 85.3 thousand employees in 1963. Value added by manufacture amounted to \$1,321 million in 1963, an increase of 12 percent from 1958 and 3 percent from 1962.

The Tires and Inner Tubes Industry includes establishments engaged primarily in the manufacture of pneumatic casings, inner tubes, and solid and cushion tires for all types of vehicles, airplanes, farm equipment, and children's vehicles, as well as tire repair, and tire retreading (camelback) materials.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE TIRES AND INNER TUBES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3011)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	155	96	85,281	621,867	66,286	131,819	460,249	1,321,238	1,623,501	2,950,657	112,807	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	86,316	618,809	67,559	137,576	463,107	1,278,062	1,602,273	2,883,654	123,271	3
1961 <sup>2</sup> .....	(NA)	(NA)	86,234	568,998	66,356	129,463	419,094	1,260,845	1,443,557	2,722,958	113,836	2
1960 <sup>2</sup> .....	(NA)	(NA)	92,003	589,556	72,168	140,191	438,538	1,271,606	1,607,879	2,844,255	133,443	2
1959 <sup>2</sup> .....	(NA)	(NA)	94,603	596,411	75,313	146,993	451,954	1,313,383	1,660,643	2,947,089	73,944	1
1958.....	123	86	89,395	521,855	69,959	133,268	388,702	1,179,957	1,386,694	2,577,788	72,269	(X)
1954 <sup>3</sup> .....	49	46	92,748	441,607	73,976	137,981	334,104	877,771	1,115,813	1,997,399	67,430	(X)
1947 <sup>3</sup> .....	57	49	115,657	390,841	93,916	185,392	311,276	650,165	944,215	1,547,040	54,883	(X)
1939 <sup>3</sup> .....	53	(NA)	67,169	122,164	54,115	(NA)	89,774	231,372	349,557	580,929	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Tires and Inner Tubes Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Tires and Inner Tubes Industry amounted to \$2,951 million. Of this total, \$211 million were products primary to other industries; and \$342 million were receipts for miscellaneous activities. The industry shipments of primary products represented 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$2,419 million of tires, inner tubes, tread rubber, tire sundries, and repair materials were shipped by all producers of these products. Of this total, \$2,397 million, or 99 percent, were shipped by plants classified in Industry 3011, Tires and Inner Tubes while the remainder was shipped by plants classified in other industries. The 1958 ratio was also 99 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.



The 1963 Census of Manufactures is the 27th Census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of

the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE TIRES AND INNER TUBES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	155	96	85,281	621,867	66,286	131,819	460,249	1,321,238	1,623,501	2,950,657	112,807	89,395	1,179,957
Northeast.....	25	16	10,161	73,236	7,906	15,875	54,104	165,322	205,512	374,098	6,847	12,048	178,970
Pennsylvania.....	12	8	5,543	40,934	4,525	9,264	32,014	101,358	110,598	214,267	4,376	5,352	91,995
North Central.....	53	31	47,620	355,415	36,510	71,232	257,627	723,382	873,294	1,607,472	68,605	51,962	608,381
Ohio.....	22	16	30,983	235,041	23,237	45,538	164,967	437,811	550,291	991,452	32,556	35,887	384,119
South.....	47	30	18,190	127,318	15,250	31,687	103,946	315,896	397,176	707,481	17,187	15,020	257,588
West.....	30	19	9,310	65,898	6,620	13,025	44,572	116,638	147,819	261,606	20,168	10,365	135,018

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—QUANTITY AND VALUE OF TIRES AND INNER TUBES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Tires and Inner Tubes Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963			1958		
			Production for all purposes (quantity)	Total shipments including interplant transfers		Production for all purposes (quantity)	Total shipments including interplant transfers	
				Quantity	Value (\$1,000)		Quantity	Value (\$1,000)
3011- --	Tires and inner tubes, total.....	.....	(X)	(X)	2,418,950	(X)	(X)	2,145,326
30111 11	Passenger car and motorcycle pneumatic tires (casings).....	1,000 tires	123,549	121,921	1,285,885	84,675	84,188	1,076,828
30112 11	Truck and bus (and off-the-highway) pneumatic tires. ....	...do.....	16,957	16,535	659,516	12,999	13,804	601,952
30113 --	Other pneumatic tires and solid tires.....	...do.....	(X)	(X)	186,418	(X)	(X)	185,455
30113 11	Aircraft.....	...do.....	570	575	31,388	477	463	43,715
30113 13	Tractor and implement (farm, garden, and industrial).....	...do.....	3,616	3,498	90,186	3,636	3,474	94,969
30113 15	Industrial.....	...do.....	3,161	3,098	21,514	1,782	1,838	12,994
30113 17	Bicycle casings and single tube tires.....	...do.....	9,609	9,706	10,167	8,243	8,152	9,352
30113 33	Solid tires:	.....	}	(S)	17,096	(NA)	(NA)	8,254
30113 35	Industrial and highway.....	...do.....						
30113 35	Bogie, idler and support rollers.....	1,000 units	(S)	(S)	17,096	270	222	1,789
30113 41	Other solid and semipneumatic:	.....	(S)	(S)	5,235	(S)	(S)	2,908
30113 51	2.00" and larger, except hand lawn mower, baby carriage, tricycle, juvenile, etc.....	1,000 tires						
30113 51	Less than 2.00", including hand lawn mower, baby carriage, tricycle, juvenile, etc.....	...do.....	(S)	(S)	10,832	(S)	(S)	11,474
30114 --	All inner tubes.....	.....	(X)	(X)	94,896	(X)	(X)	100,185
30114 21	Passenger car and motor vehicle.....	1,000 tubes	28,397	28,826	39,672	33,737	33,027	48,575
30114 23	Truck and bus, including off-the-highway.....	...do.....	11,431	11,488	36,285	8,572	8,813	32,780
30114 24	Aircraft.....	...do.....	281	284	1,885	278	276	2,705
30114 25	Tractor and implement (farm, garden, and industrial).....	...do.....	2,767	2,798	8,159	2,721	2,694	8,916
30114 26	Industrial.....	...do.....	2,621	2,552	2,896	1,991	1,888	2,077
30114 27	Bicycle.....	...do.....	9,808	10,057	5,999	8,746	8,451	5,132
30115 --	Tread rubber, tire sundries, and repair materials, total.....	.....	(X)	(X)	192,235	(X)	(X)	180,906
30115 11	Tread rubber (camelback), including slab rubber for use in automatic tread rubber extruding machines.....	1,000 lbs..	523,028	535,488	150,847	489,993	487,211	138,442
30115 31	Tire flaps.....	1,000 units	12,234	11,093	12,578	11,152	10,866	8,116
30115 39	Other tire sundries, repair materials and tiring..	1,000 lbs..	(S)	(S)	25,776	(S)	(S)	30,147
30115 00	Tread rubber, tire sundries, and repair materials, not specified by kind.....	.....	(X)	(X)	3,034	(X)	(X)	4,201

(NA) Not available. (S) Does not meet publication standards. (X) Not applicable. <sup>r</sup>Revised.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-30A-2



## INDUSTRY SERIES

preliminary  
report

### Rubber footwear

SIC Code 3021

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Rubber Footwear Industry shipped products valued at \$352 million, an increase of 54 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 41 percent from 1958 to a total of 28.8 thousand employees in 1963. Value added by manufacture amounted to \$216 million in 1963, an increase of 44 percent from 1958.

The Rubber Footwear Industry includes establishments engaged primarily in the manufacture of all rubber footwear, waterproof fabric upper footwear, and other fabric upper footwear having rubber soles vulcanized to the uppers.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE RUBBER FOOTWEAR INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3021)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	51	45	28,784	129,430	25,602	47,606	104,823	215,942	140,310	352,357	6,873	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	27,112	126,413	24,249	46,570	104,247	214,077	130,629	330,369	7,374	3
1961 <sup>2</sup> .....	(NA)	(NA)	23,768	107,423	21,067	40,796	87,130	182,271	109,018	287,249	4,780	2
1960 <sup>2</sup> .....	(NA)	(NA)	21,966	96,399	19,093	36,625	76,721	162,158	100,566	265,452	4,502	2
1959 <sup>2</sup> .....	(NA)	(NA)	21,952	95,693	19,319	37,382	77,284	161,734	98,277	250,632	4,130	1
1958.....	27	26	20,359	85,611	17,602	34,131	68,573	149,608	81,715	229,439	3,109	(X)
1954 <sup>3</sup> .....	22	21	18,322	64,022	15,773	30,317	51,296	106,768	63,651	171,471	4,217	(X)
1947 <sup>3</sup> .....	26	21	28,125	72,666	23,952	48,954	58,462	121,040	80,607	198,691	4,922	(X)
1939 <sup>3</sup> .....	13	(NA)	18,098	22,056	14,861	(NA)	16,802	29,231	20,750	49,981	(NA)	(X)

NA Not available.

X Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Rubber Footwear Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Rubber Footwear Industry amounted to \$352 million. Of this total, \$24 million were products primary to other industries; and \$26 million were receipts for miscellaneous activities. The industry shipments of primary products represented 92 percent of the total manufactured product shipments, primary and secondary.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$336 million of rubber footwear were shipped by all producers of these products. Of this total, \$302 million, or 90 percent, were shipped by plants classified in Industry 3021, Rubber Footwear while the remainder was shipped by plants classified in other industries.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.



PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE RUBBER FOOTWEAR INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3021)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	51	45	28,784	129,430	25,602	47,606	104,823	215,942	140,310	352,357	6,873	20,359	149,608
Northeast.....	36	32	21,838	102,231	19,472	36,246	83,211	177,088	106,624	279,465	4,941	15,181	119,417
North Central, South, and West..	15	13	6,946	27,199	6,130	11,360	21,612	38,854	33,686	72,892	1,932	5,178	30,191

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3A.—QUANTITY AND VALUE OF RUBBER FOOTWEAR SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Rubber Footwear Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963			1958		
		Production for all purposes (1,000 pairs)	Total shipments including interplant transfers		Production for all purposes (1,000 pairs)	Total shipments including interplant transfers	
			Quantity (1,000 pairs)	Value (\$1,000)		Quantity (1,000 pairs)	Value (\$1,000)
3021- --	RUBBER FOOTWEAR						
30210 --	Rubber footwear, total.....	(X)	(X)	336,282	(X)	(X)	213,684
	Canvas footwear, total.....	151,774	147,813	267,438	71,409	70,001	135,274
30210 11	Bals.....	23,943	24,125	48,786	20,392	19,855	42,821
30210 13	Oxfords.....	100,900	97,063	178,840	40,717	39,999	72,114
30210 15	Specialty shoes.....	26,931	26,625	39,812	10,300	10,147	20,339
	Waterproof footwear, total.....	20,869	21,314	65,526	25,437	26,469	76,750
30210 21	Boots.....	1,475	1,540	9,653	3,014	3,009	14,347
30210 31	Lumberman and pacs.....	1,060	1,139	8,260	1,691	1,672	10,277
	Arctics and gaiters:						
30210 41	Buckle and automatic, except style.	4,602	4,840	16,705	6,500	6,914	24,004
30210 45	Style, rubber and cloth.....	6,115	6,190	18,526	6,011	6,503	15,124
30210 51	Light and heavy rubbers.....	7,617	7,605	12,382	8,221	8,371	12,998
30210 98	Other rubber footwear.....	(NA)	(NA)	3,318	(NA)	(NA)	1,660

(NA) Not available.

(X) Not applicable.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR RUBBER FOOTWEAR SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3021-	Rubber footwear.....1963...	211	101
	.....1958	130	103

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-30A-3



## INDUSTRY SERIES

preliminary  
report

### Reclaimed rubber

SIC Code 3031

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Reclaimed Rubber Industry shipped products valued at \$50 million, an increase of 27 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 8 percent from 1958 and 2 percent from 1962 to a total of 2.0 thousand employees in 1963. Value added by manufacture amounted to \$28 million in 1963, an increase of 34 percent from 1958 and 4 percent from 1962.

The Reclaimed Rubber Industry includes establishments engaged primarily in reclaiming rubber from used tires, scrap and miscellaneous waste rubber articles by processes which result in a devulcanized, depolymerized or regenerated, replasticized product containing added ingredients. This product is sold for use as a raw material in the manufacture of rubber goods with or without a mixture with natural or synthetic rubber.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.--GENERAL STATISTICS FOR THE RECLAIMED RUBBER INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3031)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	13	13	2,046	13,845	1,688	3,205	10,612	27,834	22,038	49,706	1,320	(X)
1962.....	(NA)	(NA)	2,086	13,481	1,699	3,129	10,170	26,706	22,942	49,793	990	6
1961 <sup>2</sup> .....	(NA)	(NA)	2,225	13,164	1,812	3,218	10,105	25,426	20,664	46,538	1,175	4
1960 <sup>2</sup> .....	(NA)	(NA)	2,415	14,508	2,016	3,722	11,431	29,149	21,744	49,933	2,755	4
1959 <sup>2</sup> .....	(NA)	(NA)	2,339	14,149	1,976	3,770	11,268	25,004	20,719	46,956	1,110	1
1958.....	16	14	2,215	11,658	1,793	3,330	9,076	20,843	18,615	39,260	964	(X)
1954 <sup>3</sup> .....	20	18	2,953	12,697	2,460	4,602	9,671	23,454	40,149	63,599	2,834	(X)
1947 <sup>3</sup> .....	15	11	2,070	6,849	1,855	4,015	5,826	9,604	8,049	17,263	2,864	(X)
1939 <sup>3</sup> .....	10	(NA)	1,282	1,970	1,072	(NA)	1,477	3,902	2,992	6,894	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director





(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Reclaimed Rubber Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Reclaimed Rubber Industry amounted to \$50 million. Of this total, \$4 million were products primary to other industries; and \$3 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 94 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$55 million of reclaimed rubber were shipped by all producers of these products. Of this total, \$43 million, or 77 percent, were shipped by plants classified in Industry 3031, Reclaimed Rubber while the remainder was shipped by plants classified in other industries. The 1958 ratio was 72 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing



## 1963 CENSUS OF MANUFACTURES

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industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE RECLAIMED RUBBER INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958

(Not applicable for this industry.)

Table 3.--QUANTITY AND VALUE OF RECLAIMED RUBBER SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Reclaimed Rubber Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963			1958		
		Production for all purposes (quantity) (1,000 lbs.)	Total shipments including interplant transfers		Production for all purposes (quantity) (1,000 lbs.)	Total shipments including interplant transfers	
			Quantity (1,000 lbs.)	Value (\$1,000)		Quantity (1,000 lbs.)	Value (\$1,000)
3031- --	Reclaimed rubber.....	(X)	(X)	155,165	(X)	(X)	147,123
30310 11	Reclaimed rubber (any vulcanizable material, except reclaimed residue or "mud," derived from processing or treatment of natural or synthetic (chemical) vulcanized scrap rubber).....	632,872	533,044	55,165	582,568	501,963	47,123
30310 51	Crumb or ground rubber.....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	14,197	10,030	523

<sup>1</sup>Excludes crumb or ground rubber (grindings of scrap not devulcanized by the pan or digester process). Separate data for crumb or ground rubber were not collected in 1963.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-30A-4



## INDUSTRY SERIES

### Rubber products, n. e. c.

SIC Code 3069

preliminary  
report

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Fabricated Rubber Products, N.E.C., Industry shipped products valued at \$2,576 million, an increase of 37 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 10 percent from 1958 and 2 percent from 1962 to a total of 131.6 thousand employees in 1963. Value added by manufacture amounted to \$1,418 million in 1963, an increase of 42 percent from 1958 and 7 percent from 1962.

The Fabricated Rubber Products, N.E.C., Industry includes establishments engaged primarily in the manufacture of industrial and mechanical rubber goods, rubberized fabrics and vulcanized rubber clothing, and miscellaneous rubber specialties and sundries.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE FABRICATED RUBBER PRODUCTS, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3069)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,151	614	131,632	757,257	100,180	202,527	514,055	1,417,539	1,157,866	2,575,613	63,956	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	128,814	725,763	96,874	197,250	489,305	1,330,558	1,117,981	2,435,970	(78,776)	3
1961 <sup>2</sup> .....	(NA)	(NA)	121,610	664,187	90,828	182,360	438,508	1,192,781	1,019,419	2,212,536	49,994	2
1960 <sup>2</sup> .....	(NA)	(NA)	127,687	670,121	96,379	192,940	449,225	1,161,778	1,057,851	2,225,520	52,301	2
1959 <sup>2</sup> .....	(NA)	(NA)	130,740	678,294	100,380	202,445	464,003	1,199,032	1,029,100	2,204,951	48,418	1
1958.....	1,074	558	119,565	592,964	89,158	176,994	396,129	997,254	881,321	1,885,274	43,603	(X)
1954 <sup>3</sup> .....	1,315	(NA)	132,503	541,011	104,028	204,513	380,427	946,407	830,253	1,777,331	53,949	(X)
1947 <sup>3</sup> .....	774	(NA)	112,385	311,022	94,100	185,306	237,625	518,682	436,410	945,257	47,054	(X)
1939 <sup>3</sup> .....	519	(NA)	63,189	80,733	50,692	(NA)	53,358	141,650	122,875	264,525	(NA)	(X)

(NA) Not available. (X) Not applicable. <sup>3</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Fabricated Rubber Products, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Fabricated Rubber Products, N.E.C., Industry amounted to \$2,576 million. Of this total, \$325 million were products primary to other industries; and \$170 million were receipts for miscellaneous activities. The industry shipments of primary products represented 87 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 86 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$2,349 million of fabricated rubber products, n.e.c., were shipped by all producers of these products. Of this total, \$2,081 million, or 89 percent, were shipped by plants classified in Industry 3069, Fabricated Rubber Products, N.E.C., while the remainder was shipped by plants classified in other industries. The 1958 ratio was 86 percent.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.



## PUBLICATION AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

## 1963 CENSUS OF MANUFACTURES

Table 2.—GENERAL STATISTICS FOR THE FARRICATED RUBBER PRODUCTS, N.E.C., INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3069)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)
United States, total.....	1,151	614	131,632	757,257	100,180	202,527	514,055	1,417,539	1,157,866	2,575,613	63,956	119,565	997,254
New England.....	156	89	20,939	122,230	15,294	31,179	77,867	224,308	193,919	420,875	9,621	23,748	200,971
Massachusetts....	83	49	11,768	70,008	8,450	17,303	43,922	133,324	118,394	254,277	4,074	13,945	120,155
Middle Atlantic....	243	120	23,510	131,123	17,814	35,266	90,072	245,706	170,662	416,748	9,191	23,504	191,567
New York.....	80	29	5,830	28,507	4,425	8,344	18,920	56,003	39,680	96,415	1,766	5,738	42,855
New Jersey.....	100	56	10,748	62,217	8,121	16,250	43,445	110,065	76,379	187,000	4,658	12,172	103,940
Pennsylvania.....	63	35	6,932	40,399	5,268	10,672	27,707	79,638	54,603	133,333	2,767	5,594	44,772
North Central.....	426	233	60,700	367,496	46,211	93,905	252,001	643,478	553,942	1,200,274	30,499	51,123	402,661
Ohio.....	156	96	31,886	201,504	23,377	46,754	131,856	327,219	297,923	628,623	17,015	29,223	222,262
South Atlantic....	81	50	9,434	42,684	7,861	15,853	31,382	87,967	87,520	173,474	3,252	7,777	58,748
Maryland.....	12	10	1,826	7,724	1,546	3,099	5,740	12,928	11,914	24,168	376	2,099	14,148
Virginia.....	12	8	2,537	10,610	2,059	4,188	7,441	21,076	18,939	39,973	745	1,834	11,108
North Carolina....	14	5	1,593	7,595	1,272	2,512	5,627	19,297	15,743	34,876	450	1,548	14,740
Georgia.....	26	16	1,395	5,256	1,191	2,491	3,589	12,699	25,006	37,421	338	685	5,788
East South Central	30	24	3,266	14,476	2,690	5,664	10,333	29,589	31,879	60,891	2,915	1,568	14,624
Tennessee.....	16	15	1,934	8,985	1,585	3,250	6,186	16,889	23,195	39,938	2,507	929	7,966
West South Central	43	20	2,194	10,161	1,851	3,905	8,409	19,110	15,885	35,505	2,003	1,721	13,204
West.....	172	78	11,589	69,087	8,459	16,755	43,991	167,381	104,059	267,846	6,475	10,124	115,479

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3A.—QUANTITY AND VALUE OF FABRICATED RUBBER PRODUCTS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Fabricated Rubber Products, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963			1958		
			Production for all purposes (quantity)	Total shipments including interplant transfers		Production for all purposes (quantity)	Total shipments including interplant transfers	
				Quantity	Value (\$1,000)		Quantity	Value (\$1,000)
3069- --	Fabricated rubber products, n.e.c., total....	.....	(X)	(X)	2,348,703	(X)	(X)	1,759,077
30691 --	Rubber belts and belting, total.....	.....	(X)	(X)	179,015	(X)	(X)	137,930
30691 11	Conveyor and elevator.....	1,000 lbs....	59,228	59,937	57,543	52,373	52,199	52,403
30691 13	Transmission:	.....						
	Flat.....	..do.....	(S)	(S)	13,912	8,834	9,924	11,228
	V-belt:	.....						
	Motor vehicles:	.....						
30691 21	Pounds.....	..do.....	17,657	19,734	35,164	13,189	12,408	21,902
30691 25	Units.....	1,000 units..	45,399	-	-	(S)	-	-
30691 31	Industrial, except fractional.....	1,000 lbs....	14,552	15,039	28,350	11,103	11,162	22,651
30691 41	Agricultural, except fractional.....	..do.....	4,439	4,370	7,403	3,217	2,932	4,794
30691 51	Fractional horsepower.....	..do.....	9,003	9,941	19,990	8,420	8,080	16,125
30691 59	Other V-belt.....	..do.....	(S)	(S)	2,587			
30691 69	Other transmission.....	..do.....				(S)	(S)	8,450
30691 98	All other rubber belts and belting.....	..do.....	(S)	(S)	9,419			
30691 00	Rubber belts and belting, not specified by kind.....	.....	(X)	(X)	4,647	(X)	(X)	377
30692 --	Rubber hose and tubing, total.....	.....	(X)	(X)	297,365	(X)	(X)	180,655
	Hose:	.....						
	Horizontal reinforced:	.....						
30692 13	Textile.....	1,000 lbs....	(S)	(S)	34,378			
30692 15	Wire.....	..do.....	31,393	30,996	42,285	17,585	18,052	23,420
	Vertical braided:	.....						
30692 21	Garden.....	..do.....	34,744	34,453	12,963	20,890	19,786	7,581
30692 27	Radiator.....	..do.....	51,152	48,797	24,944	45,833	44,480	23,019
30692 29	Other.....	..do.....	67,687	64,114	43,351	(S)	(S)	33,686
	Wrapped:	.....						
30692 31	Hand built.....	..do.....	17,125	17,111	21,531	13,781	13,662	15,043
30692 39	Machine.....	..do.....	13,387	13,140	13,924	(S)	(S)	17,142
	Circular woven-fire:	.....						
30692 41	Specification.....	..do.....	9,651	9,541	8,998	6,218	6,393	6,751
30692 45	Commercial.....	..do.....	(S)	(S)	7,058	(S)	(S)	5,305
30692 49	Other.....	..do.....	(S)	(S)	1,751	(S)	(S)	3,131
30692 61	Gasoline.....	..do.....	12,216	11,999	12,561	12,027	12,319	11,687
30692 71	Other rubber hose, including railroad specification.....	..do.....	(S)	(S)	51,872	(S)	(S)	25,371
30692 81	Tubing, except medical and surgical and reinforced.....	..do.....	19,920	19,974	11,592	12,519	12,452	6,987
30692 00	Rubber hose and tubing, not specified by kind..	.....	(X)	(X)	10,157	(X)	(X)	1,532
30693 --	Sponge and foam rubber goods, total.....	.....	(X)	(X)	226,763	(X)	(X)	200,751
	Latex foam:	.....						
30693 11	Automobile seating.....	1,000 lbs....	36,857	37,028	26,056	36,610	37,528	29,618
	Upholstery:	.....						
30693 21	Fully molded cushions.....	..do.....	40,302	37,351	18,778	54,703	58,274	47,103
30693 29	Other, including slab stock, cored building stock, etc.....	..do.....	33,820	33,842	18,018	19,789	20,316	12,309
	Mattress cores (except polyurethane):	.....						
30693 31	Pounds.....	..do.....	24,137	-	-	23,938	-	-
30693 35	Units.....	1,000 units..	595	593	12,568	737	768	19,839
	Pillows:	.....						
30693 41	Pounds.....	1,000 lbs....	(S)	-	-	12,310	-	-
30693 45	Units.....	1,000 units..	2,948	2,948	4,766	7,987	7,762	15,278
30693 51	Carpet and rug cushions.....	1,000 sq. yds.	9,778	9,733	7,188			
30693 69	Other latex foam products, including hospital padding and topper pads.....	1,000 lbs....	(S)	(S)	60,142	35,476	36,895	30,168
	Chemically blown sponge:	.....						
30693 72	Carpet and rug cushions.....	1,000 sq. yds.	50,806	50,670	43,480	119,009	120,192	39,436
30693 79	Other.....	1,000 lbs....	46,525	49,631	31,845			
30693 00	Sponge and foam rubber goods, not specified by kind.....	.....	(X)	(X)	3,922	(X)	(X)	7,000
30694 --	Rubber floor and wall covering, total.....	.....	(X)	(X)	93,149	(X)	(X)	99,376
	Mats, matting and stair treads:	.....						
30694 21	Rolls.....	1,000 sq. yds.	(S)	(S)	7,295	(S)	(S)	7,918
	Individual mats:	.....						
30694 23	Automotive.....	..do.....	(S)	(S)	49,899	(S)	(S)	41,942
30694 25	All other, including stair treads.....	..do.....	(S)	(S)	12,289	(S)	(S)	13,537
	Other flooring:	.....						
30694 27	Sheet goods.....	..do.....	(S)	(S)	6,305	(S)	(S)	5,671
30694 28	Tile.....	..do.....	5,719	5,822	12,587	(S)	(S)	20,001

See footnotes at end of table.

Table 3A.—QUANTITY AND VALUE OF FABRICATED RUBBER PRODUCTS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Unit of measure	1963			1958		
			Production for all purposes (quantity)	Total shipments including interplant transfers		Production for all purposes (quantity)	Total shipments including interplant transfers	
				Quantity	Value (\$1,000)		Quantity	Value (\$1,000)
30694 --	Rubber floor and wall covering—Continued							
30694 29	Wall coverings, including core base, wain- scotting, etc.....	1,000 sq. yds..	(S)	(S)	4,579	8,038	7,837	10,307
30694 00	Rubber floor and wall covering, not specified by kind.....		(X)	(X)	195	(X)	(X)	-
30695 --	Mechanical rubber goods, n.e.c., total.....		(X)	(X)	847,655	(X)	(X)	534,671
	Hard rubber mechanical goods:							
	Battery, jars, boxes, and parts:							
30695 11	Jars and boxes.....	1,000 units....	32,955	32,242	33,828	19,775	20,803	21,940
30695 15	Parts.....		(X)	(X)	24,692	(X)	(X)	21,485
30695 18	Other.....		(X)	(X)	25,473	(X)	(X)	11,755
	Other rubber mechanical goods (except printer's rolls and ink rollers and gaskets):							
	Molded:							
30695 21	Automotive.....	1,000 lbs.....	(S)	(S)	142,462	(S)	(S)	174,416
30695 23	Adhered to metal, except automotive.....	..do.....	(S)	(S)	41,498			
30695 29	Other.....	..do.....	(S)	(S)	118,027			
	Extrusion and lathe cut (except tubing):							
30695 33	Extrusions only.....	..do.....	(S)	(S)	78,515	(S)	(S)	35,785
30695 35	Lathe cut.....	..do.....	(S)	(S)	14,428	(S)	(S)	11,904
30695 41	O-Rings.....	..do.....	(S)	(S)	36,539	(S)	(S)	24,089
30695 45	Packing (for sealing moving parts).....	..do.....	(S)	(S)	71,033	(S)	(S)	38,586
30695 51	Pressure sensitive type, including friction..	..do.....	(S)	(S)	23,885	(S)	(S)	20,285
30695 71	Rolls, covered, including all industry rolls except graphic arts.....		(X)	(X)	21,448	(X)	(X)	16,903
30695 81	Tank blocks, treads, and band tracks.....		(X)	(X)	44,197	(X)	(X)	11,165
30695 83	Fuel cells.....		(X)	(X)	30,403	(X)	(X)	42,499
30695 85	Boats, pontoons, and life rafts.....		(X)	(X)	10,765	(X)	(X)	6,281
30695 98	Other, including sheet rubber and jar rings..		(X)	(X)	100,180	(X)	(X)	85,709
30695 00	Mechanical rubber goods, n.e.c., not specified by kind.....		(X)	(X)	30,282	(X)	(X)	11,269
30696 --	Rubber heels and soles, total.....		(X)	(X)	136,213	(X)	(X)	134,856
	Shoe products rubber, elastomer resin:							
30696 11	Heels.....	1,000 pairs....	200,723	201,104	30,736	287,973	283,408	41,470
30696 31	Soles.....	..do.....	141,345	140,921	49,075	135,808	131,184	45,414
30696 51	Soling slabs and top lift sheets.....	1,000 sq. ft....	174,711	170,675	55,484	148,190	143,671	47,972
30696 00	Shoe products rubber, elastomer resin, not specified by kind.....		(X)	(X)	918	(X)	(X)	-
30697 --	Druggist and medical sundries, total.....		(X)	(X)	79,187	(X)	(X)	56,953
	Rubber druggist and medical sundries including household gloves:							
30697 11	Water bottles, fountain syringes, and combi- nations.....	Gross.....	56,159	56,648	9,270	30,145	30,464	5,352
30697 31	Nipples and pacifiers.....	..do.....	822,240	845,724	5,741	763,209	696,923	4,635
	Gloves, including rubberized:							
30697 51	Household.....	Doz. pairs....	1,865,534	1,846,915	10,782	1,378,471	1,395,486	8,632
30697 61	Surgical.....	..do.....	4,968,379	4,763,541	13,947	2,404,983	2,299,824	7,780
30697 75	Prophylactics (including rubber and other materials).....	Doz.....	53,411,937	50,357,330	17,319	(X)	(X)	30,187
30697 76	Diaphragms, separate and in kits.....	Number.....	(S)	(S)	2,152			
30697 79	Other, including ice bags and caps, and medical-surgical tubing.....		(X)	(X)	17,751			
30697 00	Druggist and medical sundries, not specified by kind.....		(X)	(X)	2,225	(X)	(X)	367
30698 --	Other rubber goods, n.e.c., total.....		(X)	(X)	447,899	(X)	(X)	392,308
	Rubber coated fabrics:							
30698 14	Garment fabrics.....	1,000 sq. yds..	(S)	(S)	6,529	13,801	13,781	6,506
30698 16	Shoe and slipper fabrics.....	..do.....	(S)	(S)	11,482	21,964	21,980	9,691
30698 17	Other coated fabrics, including automotive and furniture upholstery.....	..do.....	(S)	(S)	35,441	(S)	(S)	22,579
	Rubber clothing:							
30698 41	Industrial rubber gloves.....	Doz. pair.....	1,663,391	1,628,585	12,513	817,683	820,350	7,206
30698 55	Bathing and shower caps.....	Gross.....	(S)	(S)	4,641	69,302	66,996	5,360
30698 58	Other rubber clothing (rainwear, aprons, dress shields, etc.).....		(X)	(X)	10,094	(X)	(X)	3,006
30698 61	Thread bare.....	1,000 lbs.....	19,860	18,844	25,296	15,139	15,415	22,267
	Cement for sale as such:							
30698 64	Latex type.....	1,000 gals....	(S)	(S)	48,632	(S)	(S)	28,669
30698 65	Solvent type.....	..do.....	(S)	(S)	37,764	(S)	(S)	44,235
	Balloons:							
30698 68	Toy and advertising.....	Gross.....	(S)	(S)	12,841	(S)	(S)	11,584
30698 69	Meteorological.....	..do.....	(S)	(S)	2,692			
	Stationers' sundries:							
30698 73	Bands.....	1,000 lbs.....	(S)	(S)	7,550	(S)	(S)	7,039
30698 74	Other, including finger cots, erasers, excluding pencil plugs.....	..do.....	(S)	(S)	5,187	(S)	(S)	4,284

See footnotes at end of table.



Table 3A.—QUANTITY AND VALUE OF FABRICATED RUBBER PRODUCTS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Unit of measure	1963			1958		
			Production for all purposes (quantity)	Total shipments including interplant transfers		Production for all purposes (quantity)	Total shipments including interplant transfers	
				Quantity	Value (\$1,000)		Quantity	Value (\$1,000)
30698 --	Other rubber goods, n.e.c.—Continued							
30698 79	Balls, except tennis, bowling, golf, footballs and other inflatable athletic balls.....		(X)	(X)	2,629	(X)	(X)	5,629
30698 81	Toys, except balloons, balls and dolls.....		(X)	(X)	8,238	(X)	(X)	6,124
30698 91	Compounds or mixtures for sale or interplant transfers.....		(X)	(X)	117,707	(X)	(X)	78,136
30698 98	Other rubber goods, including rubber brushes, combs, mouthpieces, etc.....		(X)	(X)	83,968	(X)	(X)	109,892
30698 00	Other rubber goods, n.e.c., not specified by kind.....		(X)	(X)	14,695	(X)	(X)	19,501
30690 00	Fabricated rubber products, n.e.c., not specified by kind.....		(X)	(X)	41,457	(X)	(X)	21,577

-- Represents zero. n.e.c. Not elsewhere classified. (S) Does not meet publication standards. (X) Not applicable.

<sup>1</sup>For 1958, quantity in 1,000 pounds.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR FABRICATED RUBBER PRODUCTS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3069-	Fabricated rubber products, n.e.c.....1963...	147	99
	1958...	106	104
30691	Rubber belts and belting.....1963...	108	124
	1958...	85	127
30692	Rubber hose and tubing.....1963...	187	112
	1958...	111	109
30693	Sponge and foam rubber goods.....1963...	157	74
	1958...	121	93
30696	Rubber heels and soles.....1963...	105	111
	1958...	107	111
30697	Druggist and medical sundries.....1963...	158	105
	1958...	107	113

n.e.c. Not elsewhere classified.



# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume 1, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume 1, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-30A-5



## INDUSTRY SERIES

preliminary  
report

### Plastics products, n. e. c.

SIC Code 3079

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Plastics Products, N.E.C., Industry shipped products valued at \$3,142 million, an increase of 68 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 43 percent from 1958 and 8 percent from 1962 to a total of 165.9 thousand employees in 1963. Value added by manufacture amounted to \$1,649 million in 1963, an increase of 77 percent from 1958 and 12 percent from 1962.

The Plastics Products, N.E.C., Industry includes establishments engaged primarily in molding primary plastics for the trade, in manufacturing film, sheets, sheeting, rods, tubes and other stock shapes from purchased resins, and in fabricating miscellaneous finished plastics products.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE PLASTICS PRODUCTS, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3079)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	4,311	1,676	165,937	835,428	134,037	272,100	577,217	1,648,629	1,514,041	3,142,073	155,779	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	153,796	765,068	123,380	252,194	517,667	1,466,695	1,381,944	2,819,573	143,555	4
1961 <sup>2</sup> .....	(NA)	(NA)	136,811	665,080	107,965	221,135	446,751	1,234,266	1,235,021	2,473,155	112,901	3
1960 <sup>2</sup> .....	(NA)	(NA)	134,024	627,526	106,241	216,218	423,998	1,147,939	1,172,146	2,303,178	105,716	3
1959 <sup>2</sup> .....	(NA)	(NA)	129,523	583,799	103,149	209,492	401,550	1,093,738	1,129,811	2,217,655	86,730	1
1958.....	3,222	1,143	116,308	511,207	91,988	183,253	348,892	928,950	948,283	1,867,877	77,193	(X)
1954 <sup>3</sup> .....	2,439	829	91,967	350,227	75,689	152,179	248,975	598,388	632,976	1,227,116	45,290	(X)
1947 <sup>3</sup> .....	1,362	(NA)	58,400	156,369	49,502	102,331	119,455	258,917	214,040	472,957	27,042	(X)
1939 <sup>3</sup> .....	216	(NA)	17,953	24,289	15,094	(NA)	17,688	40,157	31,747	71,904	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

August 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, A. Ross Eckler, Director





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Plastics Products, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Plastics Products, N.E.C., Industry amounted to \$3,142 million. Of this total, \$157 million were products primary to other industries; and \$139 million were receipts for miscellaneous activities. The industry shipments of primary products represent 95 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$3,489 million of plastics products, n.e.c., were shipped by all producers of these products. Of this total, \$2,846 million, or 82 percent, were shipped by plants classified in Industry 3079, Plastics Products, N.E.C., while the remainder was shipped by plants classified in other industries. The 1958 ratio was 85 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

3

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE PLASTICS PRODUCTS, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963 and 1958

(SIC code 3079)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	4,311	1,676	165,937	835,428	134,037	272,100	577,217	1,648,629	1,514,041	3,142,073	155,779	116,308	928,950
Northeast.....	1,714	713	66,032	323,286	54,093	108,272	224,795	597,106	551,563	1,143,311	59,493	54,484	414,128
Maine.....	15	7	1,056	4,649	888	1,817	3,223	7,230	5,568	12,731	(D)	1,017	7,723
New Hampshire.....	17	12	1,564	6,729	1,328	2,616	4,802	11,028	12,371	23,430	959	343	1,690
Vermont.....	11	5	508	2,123	430	854	1,539	3,964	4,910	8,878	496	331	1,918
Rhode Island.....	48	19	2,107	8,340	1,759	3,382	5,961	25,790	14,412	39,485	2,377	2,645	28,908
Connecticut.....	95	44	4,552	23,674	3,701	7,355	17,121	37,405	34,059	71,730	2,934	3,920	30,813
Pennsylvania.....	217	86	8,341	41,570	6,766	13,420	29,584	74,216	70,427	144,037	7,856	8,320	63,729
East North Central	1,106	502	55,529	297,156	44,827	92,620	207,609	581,426	529,814	1,106,301	51,400	38,756	331,257
Ohio.....	290	152	16,317	91,111	13,377	28,576	65,751	187,369	172,810	358,183	14,558	10,336	92,564
Indiana.....	114	48	7,621	38,399	6,196	12,476	27,314	72,469	77,918	150,340	7,364	4,993	38,853
Illinois.....	375	176	19,790	109,093	15,808	32,205	74,141	208,559	163,716	370,397	21,285	16,311	140,440
Michigan.....	226	87	8,207	41,137	6,547	13,518	28,556	80,680	80,177	160,127	6,289	4,302	35,588
Wisconsin.....	101	39	3,594	17,416	2,899	5,845	11,847	32,349	35,193	67,254	1,904	2,814	23,812
West North Central	250	89	8,417	41,481	6,573	12,879	27,557	76,028	72,766	148,564	5,931	4,205	29,685
Minnesota.....	89	23	2,423	12,603	1,831	3,753	8,088	24,678	17,716	42,818	1,743	1,122	7,584
Iowa.....	29	11	1,711	8,145	1,410	2,702	6,001	14,437	14,261	28,721	1,366	890	4,358
Missouri.....	93	44	3,473	16,979	2,692	5,276	11,301	30,623	35,025	65,096	2,165	1,687	14,213
Kansas.....	26	6	415	1,872	340	610	1,100	3,221	3,130	6,271	(1)	225	1,251
South.....	511	171	20,625	94,725	16,227	33,261	63,071	238,195	220,434	452,850	22,793	9,548	76,052
Maryland.....	33	19	2,637	13,208	1,982	4,176	8,026	21,904	22,053	43,205	6,338	1,489	11,837
Virginia.....	20	10	2,134	8,860	1,801	3,524	6,446	19,318	18,217	37,301	2,284	671	4,486
Florida.....	111	18	1,142	4,929	919	1,787	3,427	10,560	9,633	19,747	876	531	3,049
Kentucky.....	17	7	879	3,806	718	1,504	2,755	8,276	7,804	15,620	929	677	4,931
Oklahoma.....	22	8	722	3,153	550	1,152	2,094	6,515	4,460	10,907	(1)	236	1,507
Mountain.....	63	9	617	2,699	497	931	1,879	5,117	4,186	9,282	546	539	2,883
Pacific.....	667	192	14,717	76,081	11,820	24,137	52,306	150,757	135,278	281,765	15,616	8,776	74,945
Washington.....	41	5	359	1,939	278	534	1,289	3,610	3,158	6,740	(1)	254	1,927
Oregon.....	26	3	164	760	125	229	486	1,308	1,140	2,436	67	122	839
California.....	591	184	14,144	73,162	11,375	23,292	50,363	145,250	130,462	271,501	15,094	8,400	72,179

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup> Less than \$500 thousand.

Table 3.--VALUE OF PLASTICS PRODUCTS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Plastics Products, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3079- --	Plastics products, n.e.c. <sup>1</sup> .....	3,488,643	1,914,467
30791 --	} Unsupported plastics film, sheets, sheeting, rods, tubes, and other stock shapes <sup>2</sup> .....	694,825	(NA)
28211 --		528,093	(NA)
30791 --		166,732	(NA)
28211 --	Made from resins manufactured in same establishment.....		
30792 --	Foamed plastics products.....	272,789	54,040
30793 --	Laminated sheets, rods, and tubes.....	253,765	162,924
30794 --	Packaging and shipping containers, plastics <sup>2</sup> .....	446,082	(NA)
30795 --	Industrial plastics products <sup>2</sup> .....	801,503	(NA)
30796 --	Construction plastics products <sup>2</sup> .....	278,729	(NA)
30797 --	Plastics dinnerware, tableware, and kitchenware <sup>2</sup> .....	164,679	(NA)
30798 --	Consumer and commercial plastics products, n.e.c. <sup>2</sup> .....	441,218	(NA)
30790 --	Miscellaneous plastics products, not specified by kind.....	135,053	79,400

n.e.c. Not elsewhere classified. (NA) Not available.

<sup>1</sup>Detailed product figures for the product classes shown below will appear in the final census report. Preliminary 1963 product figures appear in Current Industrial Reports Series M30D(1963)-1, "Shipments of Selected Plastics Products."

<sup>2</sup>Because of changes in classification, 1963 and 1958 product lines are, for the most part, not comparable. In 1958 the only unsupported film, sheet and sheeting separately classified were vinyl and polyethylene; other unsupported film, sheets, sheeting, rods, tubes and other stock shapes made from purchased resins were reported in other classifications.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-31A-1



INDUSTRY SERIES

preliminary  
report

## Leather tanning and finishing

SIC Code 3111

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Leather Tanning and Finishing Industry shipped products valued at \$757 million, an increase of 2 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 15 percent from 1958 and 1 percent from 1962 to a total of 31.4 thousand employees in 1963. Value added by manufacture amounted to \$272.1 million in 1963, a

decrease of 1 percent from 1958 and an increase of 3 percent from 1962.

The Leather Tanning and Finishing Industry includes establishments engaged primarily in tanning, currying, and finishing hides and skins into leather. This industry also includes leather converters who buy hides and skins and have them processed into leather on a contract basis by others.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.—GENERAL STATISTICS FOR THE LEATHER TANNING AND FINISHING INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3111)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	541	254	31,377	163,185	27,334	54,490	129,354	272,110	480,529	757,425	6,459	(X)
1962.....	(NA)	(NA)	31,659	157,237	27,300	53,333	123,107	263,599	491,005	765,942	7,154	4
1961 <sup>2</sup> .....	(NA)	(NA)	33,227	157,909	28,658	55,018	123,989	267,457	486,690	761,138	4,699	4
1960 <sup>2</sup> .....	(NA)	(NA)	34,539	163,864	29,955	57,600	128,901	278,536	508,470	790,724	6,145	3
1959 <sup>2</sup> .....	(NA)	(NA)	37,055	173,573	32,359	62,606	137,101	337,518	558,897	886,908	7,583	2
1958.....	578	280	37,130	165,545	32,466	63,376	133,183	275,796	464,933	743,124	7,905	(X)
1954 <sup>3</sup> .....	579	298	43,468	168,139	38,662	75,689	137,487	260,228	448,274	713,324	7,123	(X)
1947 <sup>3</sup> .....	561	(NA)	53,261	156,632	48,686	100,964	130,700	403,831	666,436	1,070,267	10,565	(X)
1939 <sup>3</sup> .....	446	(NA)	51,592	69,266	47,252	(NA)	56,783	117,394	229,044	346,438	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

June 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period. The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Leather Tanning and Finishing Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Leather Tanning and Finishing Industry amounted to \$757 million. Of this total, \$16 million were products primary to other industries; and \$112 million were receipts for miscellaneous activities. The industry shipments of primary products represent 97 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 100 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$631 million of tanned, curried, and finished leather were shipped by all producers of these products. Of this total, \$629 million, or almost 100 percent, were shipped by plants classified in Industry 3111, Leather Tanning and Finishing, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 100 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports



will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE LEATHER TANNING AND FINISHING INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3111)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	541	254	31,377	163,185	27,334	54,490	129,354	272,110	480,529	757,425	6,459	37,130	275,796
New England.....	196	88	9,983	50,542	8,744	17,100	40,022	81,829	159,650	241,768	2,066	11,057	86,012
Maine.....	14	11	2,064	9,255	1,804	3,709	7,516	14,866	18,364	32,953	(1)	1,375	8,394
New Hampshire....	17	15	1,615	7,821	1,427	2,877	6,488	8,747	17,743	27,444	(1)	1,758	10,971
Massachusetts....	162	60	5,994	32,075	5,240	9,959	24,914	55,202	120,183	174,973	1,198	7,556	63,847
Middle Atlantic...	199	76	8,220	42,779	7,094	13,917	33,947	69,252	117,636	190,095	1,144	11,348	80,149
New York.....	120	30	3,231	16,396	2,823	5,403	13,383	28,470	52,453	81,627	(1)	4,164	31,706
New Jersey.....	53	26	2,247	12,718	1,934	4,012	9,852	21,178	30,488	51,941	510	2,854	21,341
Pennsylvania....	26	20	2,742	13,665	2,337	4,502	10,712	19,604	34,695	56,527	(1)	4,330	27,102
East North Central	68	47	7,706	44,982	6,677	13,861	35,328	78,597	118,501	196,694	2,059	8,934	69,689
Illinois.....	21	13	2,040	11,956	1,853	3,886	9,809	19,555	33,356	52,874	(1)	2,303	18,274
Michigan.....	7	5	886	5,173	747	1,533	4,269	9,397	14,684	23,585	(1)	927	6,439
Wisconsin.....	27	21	3,967	23,920	3,341	7,018	18,012	44,416	61,277	106,000	1,144	4,349	35,201
West North Central	9	4	603	3,437	525	1,062	2,740	6,177	10,149	16,012	(1)	541	4,277
South.....	42	29	4,241	17,944	3,750	7,491	14,630	31,101	67,152	99,758	778	4,505	29,684
Delaware.....	7	7	1,086	5,263	886	1,748	4,068	8,447	13,713	21,933	(1)	1,489	10,482
West.....	27	9	624	3,501	544	1,059	2,687	5,154	7,441	13,098	(1)	745	5,985
California.....	18	8	559	3,212	484	946	2,436	4,441	6,632	11,560	(1)	674	5,528

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF TANNED, CURRIED, AND FINISHED LEATHER SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Leather Tanning and Finishing Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3111- --	Tanned, curried, and finished leather, total.....		(X)	630,738	(X)	634,227
31111 --	Finished cattle hide and kip side leathers, total.....		(X)	393,774	(X)	411,344
	Grains, except offal and wetting leather (heads, shoulders, bellies, etc.):					
	Sole leather:					
31111 11	Vegetable tanned (backs, bends, and sides).....	1,000 lbs....	91,919	42,689	109,991	48,424
31111 13	Chrome or retan (backs, bends, and sides).....	1,000 sq. ft.	12,702	6,223	17,010	6,509
31111 24	Belting and mechanical leather.....	1,000 lbs....	8,975	7,449	6,020	5,190
31111 33	Bag, case, and strap leather (sides).....	1,000 sq. ft.	40,877	19,200	41,563	17,633
31111 35	Upholstery leather - top grains and machine buffs (hides).....	..do.....	38,812	18,586	35,097	14,957
31111 37	Upper leather, excluding patent (sides).....	..do.....	509,419	216,283	551,488	205,465
31111 41	Patent leather (sides).....	..do.....	28,511	18,299	51,359	23,822
31111 45	Garment leather (sides).....	..do.....	9,407	3,652	20,011	6,478
31111 49	Other grains, including flat and handbag leather, and lining leather (sides).....	..do.....	40,558	15,578	(NA)	12,309
	Offal (heads, shoulders, bellies, etc.) except splits and wetting leather:					
	Sole leather:					
31111 51	Vegetable tanned.....	1,000 lbs....	31,733	8,483	50,578	15,133
31111 53	Chrome or retan.....	1,000 sq. ft.	21,750	5,197	3,204	1,108
31111 59	Other offal, including waist belt leather.....	..do.....	8,165	3,587	(NA)	7,841
31111 60	Wetting leather grains and offal.....	1,000 lbs....	3,964	1,077	4,203	1,320
	Finished splits, including shoulder splits, deep buffs, buffing and fleshers:					
31111 61	Bottom stock.....	1,000 sq. ft.	4,219	987	22,315	4,997
31111 63	Upper.....	..do.....	32,522	6,704	49,933	12,790
31111 65	Lining.....	..do.....	67,824	11,240	76,105	15,048
31111 69	Other including glove and upholstery.....	..do.....	43,568	6,517	141,432	18,921
31111 00	Finished cattle hide and kip side leathers, not specified by kind.....		(X)	2,023	(X)	3,399
31112 00	Finished all calf and whole kip leathers.....	1,000 sq. ft.	69,888	51,940	83,612	62,643
31113 --	Finished sheep and lamb leather, total.....	..do.....	234,218	69,661	228,263	56,726
31113 12	Shoe.....	..do.....	76,361	19,225	56,915	13,747
31113 31	Garment.....	..do.....	113,282	35,484	87,242	22,226
31113 39	Other, including glove, fleshers, and skivers.....	..do.....	41,636	14,078	170,462	15,044
31113 51	Shearlings.....	..do.....			13,644	5,709
31113 00	Finished sheep and lamb leather, not specified by kind.....	..do.....	2,936	874	(X)	(X)
31114 --	Other finished leathers, n.e.c., total.....	..do.....	129,669	69,084	150,465	69,156
	Goat and kid leathers:					
31114 11	Upper.....	..do.....	68,362	38,506	69,941	35,119
31114 19	Lining and other.....	..do.....	10,358	4,300	123,537	18,320
31114 20	All cabretta leathers.....	..do.....	6,681	3,057	12,409	5,365
31114 35	Horse, colt, mule, ass, and pony leathers.....	..do.....	8,454	6,265	118,160	19,607
31114 59	Other animal leathers.....	..do.....	33,184	15,555	124,162	19,708
31114 00	Other finished leathers, n.e.c., not specified by kind.....	..do.....	2,630	1,401	2,256	1,037
31115 --	Rough, russet and crush leather (not finished in the reporting establishment), total.....		(X)	23,433	(X)	26,726
31115 20	Grains and offal (heads, shoulders, bellies, etc.).....		(X)	10,726	(X)	11,454
31115 51	Splits, including shoulder splits, deep buffs, buffing, and fleshers.....		(X)	12,707	(X)	15,272
31110 00	All other finished and rough leathers, not specified by kind.....		(X)	22,846	(X)	7,632
31119 11	Receipts for contract finishing and tanning done for others on their materials..		(X)	398,934	(X)	383,855

n.e.c. Not elsewhere classified. (NA) Not available. (X) Not applicable. <sup>1</sup>Revised.

<sup>1</sup>For this product, more detailed data were collected for 1958. This information is shown in the 1958 Census of Manufactures report.

<sup>2</sup>Quantity estimated based on the quantity-value relationship reported for other products of the product class.

<sup>3</sup>Contract receipts are not included in the total shown for tanned, curried, and finished leather. For 1963, contract receipts include all receipts for tanning and finishing done for others on their materials regardless of the industry classification of the establishments. For 1958, contract receipts include all receipts for contract work done for others on their materials by establishments classified in Industry 3111, Leather Tanning and Finishing.

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-31A-2



INDUSTRY SERIES

**preliminary  
report**

## Industrial leather belting

SIC Code 3121

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Industrial Leather Belting Industry shipped products valued at \$52 million, a decrease of 23 percent from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 27 percent from 1958 to a total of 2.9 thousand employees in 1963. Value added by manufacture amounted to \$32 million in 1963, a decrease of 10 percent from 1958.

The Industrial Leather Belting Industry includes establishments engaged primarily in the manufacture of industrial leather products, such as transmission belting, mechanical packings, and textile leathers.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and 1963 but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE INDUSTRIAL LEATHER BELTING INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3121)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	83	24	2,904	16,016	2,128	4,207	9,748	32,497	19,022	51,529	753
1958.....	104	32	3,975	18,689	2,769	5,371	11,506	36,300	30,435	66,560	1,233
1954 <sup>3</sup> .....	136	34	4,576	18,569	3,342	6,513	11,484	35,383	30,682	67,102	1,955
1947 <sup>3</sup> .....	183	43	5,032	13,441	4,015	8,285	9,667	28,375	29,028	57,403	1,320
1939 <sup>3</sup> .....	190	(NA)	3,117	4,941	2,337	(NA)	2,861	10,814	13,596	24,410	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the years 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period. The figures for production workers, 1954, 1958, and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963, value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Industrial Leather Belting Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Industrial Leather Belting Industry amounted to \$52 million. Of this total, \$7 million were products primary to other industries; and \$5 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 90 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$49 million of industrial leather belting and packing were shipped by all producers of these products. Of this total, \$43 million, or 87 percent, were shipped by plants classified in Industry 3121, Industrial Leather Belting, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 92 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965.



through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE INDUSTRIAL LEATHER BELTING INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3121)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	83	24	2,904	16,016	2,128	4,207	9,748	32,497	19,022	51,529	753	3,975	36,300
Northeast.....	38	9	846	4,267	646	1,286	2,650	7,288	6,892	14,145	(1)	1,011	7,893
North Central.....	17	8	1,226	6,200	979	1,914	4,355	17,123	5,690	22,756	537	2,087	20,665
South and West....	28	7	832	5,549	503	1,007	2,743	8,086	6,440	14,628	(1)	877	7,742

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF INDUSTRIAL LEATHER BELTING AND PACKING SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Industrial Leather Belting Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3121- --	Industrial leather belting and packing, total.....	49,056	60,111
31210 13	Industrial leather belting.....	8,486	19,711
	Leather packings, oil and grease retainers.....	33,519	41,565
31210 61	Leather packings.....	7,487	8,022
31210 71	Leather oil and grease retainers, including seals.....	26,032	33,543
31210 98	Other industrial leather products made wholly or partly of leather, including textile leathers but excluding gaskets and washers.....	7,051	8,835

<sup>1</sup>For 1958, product code 3121013 includes the following: Flat leather belting, \$5,136 thousand; Other leather belting, \$2,879 thousand; and Industrial leather belting, not specified by kind, \$1,696 thousand. Data for these products were not collected separately for 1963.



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# 1963 CENSUS OF MANUFACTURES

MC63(P)-31A-3



INDUSTRY SERIES

preliminary  
report

## Footwear cut stock

SIC Code 3131

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Footwear Cut Stock Industry shipped products valued at \$229 million, a decrease of 11 percent from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 21 percent from 1958 to a total of 14.3 thousand employees in 1963. Value added by manufacture amounted to \$90 million in 1963, a decrease of 9 percent from 1958.

The Footwear Cut Stock Industry includes establishments engaged primarily in the manufacture of

leather soles, innersoles, and boot and shoe cut stock and findings. This industry also includes finished wood heels. Establishments primarily engaged in manufacturing heels, soling strips, and soles made of rubber, composition, plastics, and fiber are classified in Major Group 30.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and 1963 but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE FOOTWEAR CUT STOCK INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3131)

Year	Establishments (number)		All employees		Production workers			Value added by manufacture <sup>1</sup> (\$1,000)	Cost of materials (\$1,000)	Value of shipments <sup>1</sup> (\$1,000)	Capital expenditures, new <sup>2</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>1</sup> .....	444	205	14,329	53,314	12,593	23,678	40,783	89,979	137,942	228,746	1,595
1958.....	513	235	18,031	58,489	15,516	28,859	44,570	98,380	158,637	256,652	2,002
1954 <sup>3</sup> .....	563	261	20,059	57,113	17,641	32,533	44,231	87,070	170,826	259,732	3,063
1947 <sup>3</sup> .....	606	(NA)	22,077	47,793	19,706	38,145	38,468	87,301	206,560	294,309	1,921
1939 <sup>3</sup> .....	520	(NA)	21,293	22,735	16,845	(NA)	17,196	38,912	90,487	129,399	(NA)

(NA) Not available.

<sup>1</sup>See text regarding comparability of 1963 data with earlier years.

<sup>2</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS,



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the years 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period. The figures for production workers, 1954, 1958, and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963, value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Establishments in this industry were requested to report "value of shipments" in 1963 and "value of production" in prior years. This change was made as a result of a review of the reporting which indicated that the value of shipments data were more generally available from company records and were usually reported in place of value of production. This change does not significantly affect the comparability between 1963 and prior years for the product statistics shown in table 3 or in the industry's value of shipments shown in table 1.

However, it does have a somewhat greater effect on the comparability of the 1963 value added data to the value added information published for prior years since an adjustment in prior years was not made for changes in finished products inventories. For 1958, the finished products inventories adjustment would result in a decrease of 100 thousand dollars.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Footwear Cut Stock Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Footwear Cut Stock Industry amounted to \$229 million. Of this total, \$12 million were products primary to other industries; and \$12 million were receipts for miscellaneous activities. The industry shipments of primary products represented 94 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$216 million of footwear cut stock were shipped by all producers of these products. Of this total, \$204 million, or 94 percent, were shipped by plants classified in Industry 3131, Footwear Cut Stock, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 95.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.



## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE FOOTWEAR CUT STOCK INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture <sup>1</sup>	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture <sup>2</sup>
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	444	205	14,329	53,314	12,593	23,678	40,783	89,979	137,942	228,746	1,595	18,031	98,380
New England.....	257	122	7,922	30,593	6,862	12,813	22,198	50,429	71,560	122,433	837	9,687	54,606
New Hampshire....	35	15	990	3,418	880	1,600	2,730	5,598	9,193	14,799	( <sup>2</sup> )	1,138	5,834
Massachusetts....	185	83	5,417	21,565	4,627	8,671	15,314	35,983	54,593	90,926	547	7,213	42,382
Middle Atlantic...	99	32	2,146	7,797	1,901	3,604	6,268	12,215	22,141	34,186	( <sup>2</sup> )	3,549	18,363
New York.....	74	24	1,426	5,289	1,263	2,379	4,246	8,361	14,317	22,732	( <sup>2</sup> )	2,494	12,480
East North Central	23	11	883	3,289	792	1,553	2,742	5,151	7,526	12,772	( <sup>2</sup> )	774	3,981
Ohio.....	5	3	267	1,017	237	496	853	1,681	1,284	2,862	( <sup>2</sup> )	218	948
West North Central	38	28	2,482	8,560	2,217	4,177	6,964	17,022	28,829	46,116	( <sup>2</sup> )	2,996	16,566
South and West....	27	12	896	3,075	821	1,531	2,611	5,162	7,886	13,239	( <sup>2</sup> )	1,025	4,864

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>See text regarding comparability of 1963 and 1958 data.

<sup>2</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF BOOT AND SHOE CUT STOCK AND FINDINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Footwear Cut Stock Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963				1958	
			Total shipments including interplant transfers		Transfers to other plants of the same company		Total shipments including interplant transfers	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3131- --	Boot and shoe cut stock and findings, total.	.....	(X)	216,454	(X)	35,368	(X)	239,043
	Boot and shoe cut stock:							
	Outer soles:							
31310 11	Leather.....	1,000 doz. prs...	6,490	34,168	1,745	11,730	9,484	44,797
31310 15	Other, except rubber, elastomer resin, and plastic.....	...do.....						
	Innersoles:							
31310 17	Leather.....	...do.....	2,873	9,358	4,578	7,087	5,531	15,296
31310 18	Other.....	...do.....	16,879	14,324			12,729	9,332
	Heels:							
31310 21	Leather.....	...do.....	8,604	12,622	1,282	2,083	4,383	6,657
31310 23	Other, except rubber, elastomer resin, and plastic.....	...do.....	5,000	7,049			5,502	6,342
31310 29	Counters.....	...do.....	28,176	14,065	4,020	1,940	23,795	11,763
31310 41	Box toes.....	...do.....	27,674	8,006	6,620	1,789	21,217	7,872
31310 45	Taps.....	...do.....	771	3,265			1,192	4,490
	Other cut stock:							
31310 48	Leather.....	.....	(X)	5,270	(X)	440	(X)	6,129
31310 49	Other.....	.....	(X)	11,245	(X)	171	(X)	214,111
	Findings, boot and shoe:							
31310 63	Wood heel blocks, made for sale as such.....	1,000 doz. prs...	2,018	3,917	7,370	7,723	4,828	9,998
	Finished wood heels:							
31310 65	Manufactured complete in your plant.....	...do.....	3,353	11,236			2,072	7,763
31310 66	Finished from purchased blocks.....	...do.....	3,717	14,024			3,821	15,824
31310 67	Shanks.....	...do.....	22,962	6,441			19,515	5,922
31310 68	Welting (equivalent 1/2-inch wide).....	1,000 linear yds.	109,222	9,623			140,676	12,324
31310 69	Other findings.....	.....	(X)	38,539	(X)	2,405	(X)	336,247
31310 00	Footwear cut stock, not specified by kind.....	.....	(X)	13,302	(X)	(X)	(X)	24,176

(X) Not applicable.

<sup>1</sup>For 1958, includes 1,320 thousand dozen pairs of leather counters valued at \$1,791 thousand, and 22,475 thousand dozen pairs of other counters valued at \$9,972 thousand. Data for these products were not collected separately for 1963.<sup>2</sup>For 1958, includes 859 thousand dozen pairs of midsoles, valued at \$2,246 thousand; 6,549 thousand dozen pairs of heel lifts and top lifts valued at \$2,458 thousand; and uppers (vamps, quarters, tips, and tongues, etc.) valued at \$3,305 thousand. Data for these products were not collected separately for 1963.<sup>3</sup>For 1958, includes 1,660 thousand dozen pairs of platforms, valued at \$2,017 thousand, for which data were not collected separately for 1963.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-31A-4



## INDUSTRY SERIES

**preliminary  
report**

### Shoes, except rubber and House slippers

SIC Codes 3141 and 3142

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Shoes, Except Rubber Industry shipped products valued at \$2,246 million, and manufacturers in the House Slippers Industry had shipments of \$124 million, increases of 10 and 11 percent, respectively, since 1958, according to preliminary results obtained from the 1963 census. Average employment in the Shoes, Except Rubber Industry decreased 6 percent from 1958 to a total of 201.9 thousand employees, while employment in the House Slippers Industry decreased 3

percent to a total of 11.2 thousand in 1963. Value added by manufacture in the Shoes, Except Rubber Industry amounted to \$1,210 million in 1963, an increase of 11 percent from 1958, while the value added by manufacture for the House Slippers Industry amounted to \$65 million, an increase of 9 percent from 1958.

The Shoes, Except Rubber Industry includes establishments engaged primarily in the manufacture of boots and shoes designed primarily for street, work, play or sport wear. Establishments primarily engaged in the production of such protective footwear as rubbers, rubber boots, storm shoes, galoshes and other footwear with rubber soles vulcanized to fabric uppers are classified in Industry 3021.

Table 1A.—GENERAL STATISTICS FOR THE SHOES, EXCEPT RUBBER INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3141)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture <sup>1</sup>	Cost of materials	Value of shipments <sup>1</sup>	Capital expend- itures, new <sup>2</sup>	Standard error of estimate (percent) for number of employees column <sup>3</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,033	815	201,863	714,176	183,417	335,275	590,088	1,210,241	1,036,496	2,245,772	17,686	(X)
1962.....	(NA)	(NA)	215,776	742,191	195,415	356,525	609,374	1,215,968	1,095,357	2,312,338	17,673	3
1961.....	(NA)	(NA)	216,436	718,323	195,216	352,123	584,839	1,177,848	1,050,376	2,233,110	21,279	2
1960.....	(NA)	(NA)	216,340	704,722	195,027	352,506	575,114	1,161,060	1,050,832	2,212,655	15,238	2
1959.....	(NA)	(NA)	219,666	717,004	198,888	366,285	588,812	1,185,045	1,100,983	2,279,564	13,787	1
1958.....	1,115	887	215,311	662,421	194,314	348,481	542,179	1,086,260	964,289	2,048,857	14,533	(X)
1954 <sup>4</sup> .....	1,196	931	219,375	589,267	199,907	356,681	490,142	942,961	864,967	1,809,127	11,420	(X)
1947 <sup>4</sup> .....	1,292	(NA)	230,882	496,990	212,213	400,757	423,181	751,528	975,081	1,726,609	( <sup>5</sup> )	(X)
1939 <sup>4</sup> .....	930	(NA)	(NA)	(NA)	207,767	(NA)	175,384	330,075	369,203	699,278	(NA)	(X)

(NA) Not available. (X) Not applicable. <sup>†</sup>Revised.

<sup>1</sup>See text regarding comparability of 1963 and prior years.

<sup>2</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>3</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>4</sup>Data for Alaska and Hawaii are not included.

<sup>5</sup>Less than \$500 thousand.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





The House Slippers Industry includes establishments primarily engaged in manufacturing house slippers of leather or other materials.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period. The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1939 and 1947, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories

between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Establishments in these industries were requested to report "value of shipments" in 1963 and "value of production" in prior years. This change was made as a result of a review of the reporting which indicated that the value of shipments data were more generally available from company records and were usually reported in place of value of production. This change does not significantly affect the comparability between 1963 and prior years for the product statistics shown in table 3 or in the value of shipments or value added data shown in tables 1A and 1B.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in either the Shoes, Except Rubber Industry or in the House Slippers Industry consists not only of products described above as primary to their respective industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Shoes, Except Rubber Industry amounted to \$2,246 million. Of this total, \$32 million were products primary to other industries; and \$42 million were receipts for miscellaneous activities. The industry shipments of primary products represented 99 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 99 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$2,196 million of shoes, except rubber were shipped by all producers of these products. Of this total, \$2,171 million, or 99 percent, were shipped by plants classified in Industry 3141, Shoes, Except Rubber, while the remainder was shipped by plants classified in other industries. The comparable figure for 1958 was also 99 percent.

The total value of shipments and other receipts of establishments classified in the House Slippers Industry amounted to \$124 million. Of this total,

\$10 million were products primary to other industries; and \$5 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 90 percent.

This differs from the total value of shipments of house slippers which amounted to \$126 million as shown in table 3. Of this total, \$109 million, or 87 percent, were shipped by plants classified in Industry 3142, House Slippers, while the remainder was shipped by plants classified in other industries. The comparable figure for 1958 was 85 percent.

#### COMPARISON OF CENSUS AND CURRENT SURVEY DATA

Establishments producing shoes and slippers also report their production monthly or annually on Census Forms M31A or MA-31A, "Shoes and Slippers." These reports were matched with the Census of Manufactures reports. Among other discrepancies, this analysis revealed that a significant number of manufacturers had not been included in the current survey. The data for these companies were included in a revision to the M31A data as issued on March 26, 1965.

The data shown in table 3 represent footwear shipments and therefore differ from the production by method of construction data shown in tables 4A and 4B and also differ from the revised production data issued on March 26, 1965. The production data shown in tables 4A and 4B have been adjusted to equal the revised 1963 production figures issued in the M31A series.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1A, 1B, and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary

activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1A, 1B, and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for these industries will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 1B.—GENERAL STATISTICS FOR THE HOUSE SLIPPERS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3142)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture <sup>1</sup>	Cost of materials	Value of shipments <sup>1</sup>	Capital expend- itures, new <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>3</sup> .....	153	97	11,156	40,211	10,002	17,423	30,725	64,903	59,205	124,255	1,105
1958.....	164	97	11,520	37,057	10,168	18,046	28,291	59,656	52,552	112,145	590
1954 <sup>4</sup> .....	173	99	10,879	30,065	9,661	16,773	22,911	45,418	45,641	90,760	664
1947 <sup>4</sup> .....	208	(NA)	9,433	19,889	8,441	18,895	15,713	34,015	33,373	67,388	(NA)
1939 <sup>4</sup> .....	139	(NA)	(NA)	(NA)	10,243	(NA)	8,253	16,072	19,235	35,307	(NA)

(NA) Not available.

<sup>1</sup>See text regarding comparability of 1963 and prior years.

<sup>2</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>3</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>4</sup>Data for Alaska and Hawaii are not included.



## 1963 CENSUS OF MANUFACTURES

Table 2.—GENERAL STATISTICS FOR THE SHOES, EXCEPT RUBBER, AND HOUSE SLIPPERS INDUSTRIES, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC codes 3141 and 3142)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture <sup>1</sup>	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture <sup>1</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
Shoes, except rubber, total	1,033	815	201,863	714,176	183,417	335,275	590,088	1,210,241	1,038,196	2,245,772	17,686	215,311	1,086,260
New England.....	317	268	71,206	264,307	63,950	113,694	212,265	387,563	341,283	728,192	4,588	76,158	367,640
Massachusetts...	170	139	32,717	126,420	28,997	50,826	99,865	186,535	155,429	341,548	1,808	38,689	196,133
Connecticut.....	15	14	1,583	5,123	1,480	2,739	4,344	7,977	6,890	14,935	( <sup>2</sup> )	1,570	6,670
Middle Atlantic...	286	215	39,034	135,434	35,894	66,559	113,088	205,126	203,545	410,805	3,732	44,503	204,628
New York.....	147	96	14,031	52,290	12,549	23,222	42,073	81,507	81,444	163,021	1,501	20,843	101,104
New Jersey.....	13	9	1,112	3,859	1,036	1,420	3,056	5,550	5,187	10,886	( <sup>2</sup> )	822	3,967
Pennsylvania....	126	110	23,891	79,285	22,309	41,917	67,959	118,069	116,914	236,898	2,162	22,838	99,557
East North Central	110	97	30,753	117,496	27,476	50,691	95,110	221,400	168,199	390,432	2,832	33,929	194,523
Indiana.....	7	6	2,141	8,121	2,021	4,048	7,466	17,497	13,105	30,474	( <sup>2</sup> )	1,950	12,870
Illinois.....	35	29	10,750	37,979	9,905	17,675	32,201	77,940	57,176	135,738	( <sup>2</sup> )	12,889	74,045
Wisconsin.....	41	39	8,614	34,905	7,183	13,470	25,475	59,106	53,765	113,414	600	9,914	57,248
West North Central	91	79	22,797	72,689	20,945	37,629	62,945	159,663	120,213	280,212	2,337	29,387	159,663
Minnesota.....	7	6	1,000	4,706	860	1,669	3,048	8,838	6,533	15,152	( <sup>2</sup> )	1,057	6,717
Missouri.....	76	69	21,511	67,058	19,852	35,540	59,198	149,446	112,798	262,660	2,233	27,970	151,373
South.....	152	122	35,268	113,336	32,675	62,261	98,216	218,888	188,771	403,977	3,999	28,369	143,729
West.....	77	34	2,805	10,914	2,477	4,441	8,464	17,601	14,485	32,154	( <sup>2</sup> )	2,965	16,077
House slippers, total.....	153	97	11,156	40,211	10,002	17,423	30,725	64,903	59,205	124,255	1,105	11,520	59,656
New England.....	33	22	2,921	10,024	2,614	4,310	7,581	15,322	15,072	30,438	( <sup>2</sup> )	2,887	15,181
Massachusetts...	24	16	2,465	8,352	2,209	3,532	6,328	13,055	12,849	25,911	( <sup>2</sup> )	2,382	12,486
Middle Atlantic...	92	58	6,190	23,291	5,632	9,959	18,337	37,673	35,103	72,883	692	6,165	32,831
New York.....	74	43	4,267	15,140	3,850	6,619	11,979	26,162	23,862	49,845	( <sup>2</sup> )	4,476	24,377
New Jersey.....	8	8	952	4,776	875	1,753	3,472	6,373	5,551	11,835	( <sup>2</sup> )	888	4,729
Pennsylvania....	10	7	971	3,375	907	1,587	2,886	5,138	5,690	11,203	( <sup>2</sup> )	801	3,725
East North Central	9	6	719	2,532	633	1,077	1,652	4,467	2,866	7,358	( <sup>2</sup> )	783	3,359
West North Central	7	6	842	2,906	724	1,376	2,157	4,972	4,197	9,163	( <sup>2</sup> )	941	4,400
South and West....	12	5	484	1,458	399	701	998	2,469	1,967	4,413	( <sup>2</sup> )	744	3,885

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>See text regarding comparability of 1963 and 1958 data.

<sup>2</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF SHOES, EXCEPT RUBBER, AND HOUSE SLIPPERS INDUSTRIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in either the Shoes, Except Rubber or the House Slippers Industries but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers <sup>1</sup>			
		1963		1958	
		Quantity (1,000 pairs)	Value (\$1,000)	Quantity (1,000 pairs)	Value (\$1,000)
3141- --	Shoes, except rubber.....	522,184	2,195,946	524,276	2,013,126
31411 01	Men's dress shoes, including play shoes.....	83,285	529,658	77,616	472,469
31412 10	Men's work shoes.....	26,663	174,602	24,916	146,860
31413 07	Youths' and boys' shoes.....	21,611	80,098	23,548	81,774
31414 10	Women's dress, work and play shoes.....	269,716	1,042,403	279,462	996,402
31415 10	Misses' and children's shoes.....	64,464	187,038	69,766	192,256
31416 01	Infants' and babies' shoes.....	31,408	72,483	36,470	76,181
31417 10	Other footwear (except rubber footwear, shoes with skates attached, or slippers).....	11,479	53,668	12,498	47,184
31410 00	Footwear, not specified by kind.....	<sup>2</sup> 13,558	55,996	(X)	(X)
31420 61	House slippers, total.....	78,629	125,937	70,865	115,700

(X) Not applicable.

<sup>1</sup>Establishments in this industry were requested to report "Value of shipments" in 1963 and "Value of production" in 1958. This change does not significantly affect the comparability of the data for the two years (see text).

<sup>2</sup>Quantity estimated using the average unit value reported by other shoe producing companies reporting both quantity and value of shipments.

Table 4A.—PRODUCTION OF SHOES AND SLIPPERS, EXCEPT RUBBER, BY TYPE OF CONSTRUCTION: 1963

(1,000 pairs)

Type of footwear	Total	Cemented, ex-cluding slip-lasted	Slip-lasted	Welt, in-cluding Silhou-welt	McKay, in-cluding Little-way	Stitch-down	Soft sole	Turn or turned	Vul-canized, in-cluding injec-tion molded <sup>1</sup>	Other construc-tions (prewelt, nailed, etc.)	Construc-tion not specified
Shoes and slippers, except rubber, total.....	604,328	349,820	28,378	86,839	25,306	23,950	33,667	4,397	15,013	9,108	27,850
Shoes, sandals and playshoes, total.....	509,722	(D)	22,795	84,535	(D)	21,366	5,887	1,025	15,013	7,326	17,290
Men's, total.....	110,703	(D)	1,695	59,931	(D)	(D)	(D)	-	(D)	1,533	4,230
Men's other than work.....	82,547	28,104	1,695	38,757	5,009	4,238	(D)	-	1,227	(D)	2,644
Men's work:											
Less than 6" high.....	11,061	(D)	-	7,361	(D)	(D)	-	-	(D)	(D)	1,586
6" high and over.....	17,095	(D)	-	13,813	435	843	-	-	1,449	(D)	-
Youths' and boys'.....	24,043	8,536	-	5,499	(D)	3,818	-	-	3,533	(D)	1,855
Women's.....	275,186	224,145	18,997	5,967	13,611	(D)	1,325	(D)	1,240	2,067	7,569
Misses'.....	35,539	23,234	1,150	3,096	1,049	2,564	(D)	-	4,041	(D)	45
Children's.....	30,739	15,079	522	5,611	128	5,663	(D)	-	1,784	(D)	1,434
Infants' and babies'.....	33,512	13,322	431	4,431	(D)	3,873	4,140	(D)	(D)	3,021	2,157
Athletic shoes.....	9,753	(D)	-	470	2,619	535	-	-	-	(D)	5,658
Slippers for housewear, total.....	77,619	32,439	5,583	816	(D)	1,822	27,580	3,310	-	(D)	4,346
Men's, youths', and boys'.....	15,614	7,374	362	536	(D)	1,362	3,977	(D)	-	(D)	369
Women's.....	49,431	21,960	4,408	(D)	-	(D)	16,799	1,358	-	(D)	3,845
Misses', children's, infants' and babies'.....	12,574	3,105	813	(D)	-	(D)	6,804	(D)	-	350	132
All other footwear.....	7,234	(D)	-	1,018	1,077	(D)	(D)	(D)	-	58	556

NOTE: The constructions shown in this table relate to the method of outsole attachment. In addition to those specified, companies were asked to report two additional categories: Moccasins with outsole attached, and moccasins having no line of demarcation between the sole and upper. An investigation showed that a substantial number of companies producing moccasins with outsole attached had included them with cemented, welt, etc., depending on the method of attachment of the outsole. It was also apparent that moccasins having no line of demarcation between the sole and upper were not completely reported. Figures reported for these two categories, therefore, have been included in the "construction not specified" column, by type of footwear.

- Represents zero.

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Production data on footwear with sole vulcanized to fabric upper, including sneakers, are presented in the 1963 Census of Manufactures preliminary report on rubber footwear, SIC Code 3021.

Table 4B.—PRODUCTION OF SHOES AND SLIPPERS, EXCEPT RUBBER, BY TYPE OF CONSTRUCTION: 1963 AND 1958

(1,000 pairs)					
Item	1963	1958	Item	1963	1958
Shoes and slippers, except rubber, total.....	604,328	595,141	Shoes and slippers, except rubber—Continued		
Men's shoes, other than work, total.....	82,547	77,616	Misses' shoes, total.....	35,539	<sup>2</sup> 38,631
Welt, including Silhouwelt.....	38,757	58,321	Welt, including Silhouwelt.....	3,096	5,641
McKay, including Littleway.....	5,009	7,538	Cemented, excluding slip-lasted.....	23,234	16,384
Slip-lasted.....	1,695	328	Stitchdown.....	2,564	14,655
Cemented, excluding slip-lasted.....	28,104	4,810	Other constructions, including construction not specified by kind.....	6,645	1,951
Other constructions, including construction not specified by kind.....	8,982	<sup>1</sup> 6,619	Children's shoes, total.....	30,739	31,135
Men's work shoes, less than 6" high, total.....	11,061	8,871	Welt, including Silhouwelt.....	5,611	6,569
Welt including Silhouwelt.....	7,361	7,615	Cemented, excluding slip-lasted.....	15,079	10,793
McKay, including Littleway.....		683	Stitchdown.....	5,663	11,641
Other constructions, including construction not specified by kind.....	3,700	573	Other constructions, including construction not specified by kind.....	4,386	2,132
Men's work shoes, 6" high and over, total.....	17,095	16,045	Infants' and babies' shoes, total.....	33,512	36,470
Welt, including Silhouwelt.....	13,813	13,208	Welt, including Silhouwelt.....	4,431	9,732
McKay, including Littleway.....	435	1,116	Stitchdown.....	3,873	10,841
Vulcanized, including injection molded.....	1,449	247	Other constructions, including construction not specified by kind.....	25,208	15,897
Other constructions, including construction not specified by kind.....	1,398	1,474	Athletic shoes, total.....	9,753	<sup>3</sup> 5,929
Youths' and boys' shoes, total.....	24,043	23,548	All other footwear, except slippers.....	7,234	<sup>3</sup> 6,569
Welt, including Silhouwelt.....	5,499	11,596	Men's, youths', and boys' slippers, total.....	15,614	15,903
Stitchdown.....	3,818	8,482	Cemented, excluding slip-lasted.....	7,374	6,501
McKay, including Littleway.....		2,040	Stitchdown.....	1,362	2,625
Other constructions, including construction not specified by kind.....	14,726	1,430	Soft sole.....	3,977	4,135
Women's shoes, total.....	275,186	<sup>2</sup> 279,462	Turn or turned.....		824
Welt, including Silhouwelt.....	5,967	18,730	Other constructions, including construction not specified by kind.....	2,901	1,818
McKay, including Littleway.....	13,611	20,459	Women's slippers, total.....	49,431	43,865
Slip-lasted.....	18,997	33,879	Turn or turned.....	1,358	780
Cemented, excluding slip-lasted.....	224,145	187,410	McKay, including Littleway.....	-	1,269
Other constructions, including construction not specified by kind.....	12,466	18,984	Slip-lasted.....	4,408	5,807
			Cemented, excluding slip-lasted.....	21,960	12,596
			Soft sole.....	16,799	16,512
			Other constructions, including construction not specified by kind.....	4,906	6,901
			Misses', children's, infants', and babies' slippers, total.....	12,574	<sup>3</sup> 11,097

Note: The constructions listed are those for which separate data are available for 1958. More detailed information for 1963 for the "other constructions" category is shown in Table 4A.

- Represents zero.

<sup>1</sup>For 1958, includes 1,657 thousand pairs of men's play shoes for which separate data were not collected by type of construction.

<sup>2</sup>For 1958, figures for misses' play shoes are included with those for women's shoes. For 1963, they are included with misses'.

<sup>3</sup>Data by method of construction are not available for 1958.

# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume 1, Summary Statistics

Volume 11, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume 111, Area Statistics

### Mineral Industries

Volume 1, General Summary and Industry Statistics

Volume 11, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.



U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-31B-1

preliminary  
report

## Leather gloves

SIC Code 3151

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Leather Gloves Industry shipped products valued at \$80 million, an increase of 48 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 24 percent over 1958 to a total of 7.7 thousand employees in 1963. Value added by manufacture amounted to \$33 million in 1963, an increase of 27 percent over 1958.

The Leather Gloves Industry includes establishments engaged primarily in the manufacture of dress, semidress, and work gloves exclusively of leather. Establishments primarily engaged in manufacturing sporting and athletic gloves are classified in Industry 3949, Sporting and Athletic Goods; knit gloves in Industry 2259, Knitting Mills, N.E.C.; and dress, semidress, and work gloves and mittens of cloth, or cloth and leather combined in Industry 2381, Fabric Dress and Work Gloves.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.—GENERAL STATISTICS FOR THE LEATHER GLOVES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3151)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture <sup>1</sup>	Cost of materials	Value of shipments <sup>1</sup>	Capital expend- itures, new <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>3</sup> .....	164	87	7,716	24,435	6,897	12,240	19,477	33,025	46,599	80,414	327
1958.....	179	76	6,212	15,999	5,503	9,214	12,705	25,999	28,309	54,155	263
1954 <sup>4</sup> .....	239	90	6,917	15,573	6,181	10,433	12,344	22,718	26,201	49,989	122
1947 <sup>4</sup> .....	341	131	11,577	20,798	10,491	18,132	17,091	32,088	30,881	63,438	528
1939 <sup>4</sup> .....	231	(NA)	(NA)	(NA)	9,539	(NA)	7,061	12,467	13,269	25,736	(NA)

(NA) Not available.

<sup>1</sup>See text regarding comparability of 1963 data with earlier years.

<sup>2</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>3</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>4</sup>Data for Alaska and Hawaii are not included.

May 1965

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954, 1958, and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963, value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Establishments in this industry were requested to report "Value of shipments" in 1963 and "Value of production" in prior years. This change was

made as a result of a review of the reporting which indicated that the value of shipments data were more generally available from company records and were usually reported in place of value of production. This change does not significantly affect the comparability between 1963 and prior years for the product statistics shown in table 3 or in the industry's value of shipments shown in table 1. However, it does have a somewhat greater effect on the comparability of the 1963 value added data to the value added information published for prior years since an adjustment in prior years was not made for changes in finished products inventories. For 1958, the finished products inventories adjustment would result in a decrease of 1 million dollars, or approximately 4 percent.

While value of shipments data were frequently reported in place of value of production, the companies do differentiate between the quantity produced and the quantity shipped. This resulted in some differences in the quantity data collected in the census of manufactures and in the current survey as indicated in the note to table 3.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Leather Gloves Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Leather Gloves Industry amounted to \$80 million. Of this total, \$15 million were products primary to other industries; and \$12 million were receipts for miscellaneous activities. The industry shipments of primary products represent 79 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 85 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$61 million of leather gloves were shipped by all producers of these products. Of this total, \$54 million, or 88 percent were shipped by plants classified in Industry 3151, Leather Gloves, while the remainder was shipped by plants classified in other industries.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an



industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing

industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE LEATHER GLOVES INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3151)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture <sup>1</sup>	Cost of materials	Value of shipments <sup>1</sup>	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture <sup>1</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	164	87	7,716	24,435	6,897	12,240	19,477	33,025	46,599	80,414	327	6,212	25,999
Northeast.....	91	44	4,125	12,883	3,666	6,169	10,282	16,119	27,337	44,903	( <sup>2</sup> )	3,166	13,211
New York.....	83	41	3,908	12,228	3,463	5,801	9,736	15,304	26,464	43,194	( <sup>2</sup> )	2,838	11,805
East North Central	37	25	2,213	7,072	2,015	3,862	5,785	10,035	11,430	20,705	( <sup>2</sup> )	2,037	8,675
Illinois.....	7	5	584	1,763	538	1,119	1,491	3,150	3,352	5,655	( <sup>2</sup> )	579	2,830
Wisconsin.....	20	14	1,155	3,780	1,048	1,968	3,059	4,554	5,687	10,376	( <sup>2</sup> )	882	3,547
West North Central	9	7	557	1,760	444	770	1,234	2,582	2,913	5,626	( <sup>2</sup> )	312	1,186
South.....	5	5	475	1,361	456	858	1,242	2,285	2,581	4,863	( <sup>2</sup> )	459	1,691
West.....	22	6	366	1,359	316	581	934	2,062	2,338	4,317	( <sup>2</sup> )	238	1,236
California.....	9	4	181	612	149	250	439	859	900	1,761	( <sup>2</sup> )	149	941

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>See text regarding comparability of 1963 data with earlier years.

<sup>2</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF LEATHER GLOVES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Leather Gloves Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers <sup>1</sup>			
		1963		1958	
		Quantity (1,000 dozen pairs)	Value (\$1,000)	Quantity (1,000 dozen pairs)	Value (\$1,000)
3151- --	Leather dress, semidress, and work gloves, total <sup>2</sup> .....	2,673	61,319	2,272	49,319
31510 12	Men's and boys':				
	As reported in the census of manufactures.....	804	23,766	705	20,409
	As reported on Census Annual Form MA-23D.....	r 776	(NA)	705	(NA)
	Block cut.....	r 579	(NA)	556	(NA)
	Table cut.....	65	(NA)	68	(NA)
	All other.....	132	(NA)	81	(NA)
31510 52	Women's and children's:				
	As reported in the census of manufactures.....	325	11,786	288	9,056
	As reported on Census Annual Form MA-23D.....	284	(NA)	288	(NA)
	Block cut.....	114	(NA)	154	(NA)
	Table cut.....	142	(NA)	83	(NA)
	All other.....	28	(NA)	51	(NA)
31510 79	All leather work gloves and mittens, including fur:				
	As reported in the census of manufactures.....	1,390	22,207	1,279	19,794
	As reported on Census Annual Form MA-23D.....	1,481	(NA)	1,279	(NA)
	All-grain, except welders'.....	954	(NA)	906	(NA)
	All-split, except welders'.....	305	(NA)	223	(NA)
	Welders'.....	155	(NA)	113	(NA)
	All other leather gloves and mittens.....	67	(NA)	37	(NA)
31510 00	Leather gloves and mittens, not specified by kind.....	<sup>3</sup> 154	3,560	(X)	(X)

Note: The quantity data reported in the census of manufactures is quantity shipped, while the quantity data reported on Census Annual Form MA-23D, "Gloves and Mittens," is quantity produced. In large part, this accounts for the difference between the data collected in the two surveys.

(NA) Not available. (X) Not applicable. <sup>1</sup>Revised.

<sup>2</sup>Establishments in this industry were requested to report "Value of shipments" in 1963 and "Value of production" in 1958. This change does not significantly affect the comparability of the value data for the two years (see text). For 1958, the quantity of production data were obtained from the Current Industrial Report M23D, "Gloves and Mittens."

<sup>3</sup>Includes only all leather gloves and mittens. Leather-and-fabric combinations are classified in Industry 2381, "Fabric Dress and Work Gloves."

<sup>4</sup>Quantity estimated based on average quantity-value relationship of all other products.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-31B-2



INDUSTRY SERIES

preliminary  
report

Luggage

SIC Code 3161

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Luggage Industry shipped products valued at \$205 million, an increase of 14 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 1 percent from 1958 to a total of 16.1 thousand employees in 1963. Value added by manufacture amounted to \$111 million in 1963, an increase of 15 percent from 1958.

The Luggage Industry includes establishments engaged primarily in the manufacture of luggage and

related products, such as briefcases, zipper cases, brief bags, school bags, and musical instrument cases. Establishments primarily producing instrument cases other than musical instruments, jewelry boxes and cases, and travel kits are classified in Industry 3172, Small Leather Goods.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and 1963 but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE LUGGAGE INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3161)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expendi- tures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	366	138	16,088	61,774	13,854	26,086	46,020	110,623	97,310	205,288	1,843
1958.....	428	159	15,856	54,717	13,725	25,138	40,282	96,560	88,194	184,722	1,504
1954 <sup>3</sup> .....	497	159	15,856	51,679	13,960	27,417	39,753	91,313	82,538	172,691	1,868
1947 <sup>2</sup> .....	591	(NA)	16,002	41,055	13,852	27,814	30,981	67,662	65,206	132,868	1,842
1939 <sup>2</sup> .....	329	(NA)	9,924	11,556	8,326	(NA)	7,919	17,377	19,214	36,591	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

July 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the years 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period. The figures for production workers, 1954, 1958, and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963, value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Luggage Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Luggage Industry amounted to \$205 million. Of this total, \$10 million were products primary to other industries; and \$9 million were receipts for miscellaneous activities. The industry shipments of primary products represent 95 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$201 million of luggage were shipped by all producers of these products. Of this total, \$187 million, or 93 percent, were shipped by plants classified in Industry 3161, Luggage, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 95.

COMPARISON OF CENSUS AND CURRENT SURVEY DATA

Establishments shipping luggage, travel kits, billfolds, wallets, and French purses also report monthly on Census Form M31E, Luggage, Briefcases, and Personal Leather Goods. The 1963 data compiled from this survey are shown in table 3A together with the comparable totals reported in the census of manufactures. The M31E survey was initiated in 1960.

The two sets of 1963 data differ primarily because of the different procedures used in deriving the totals. All manufacturing plants are included in the census of manufactures. The monthly M31E data, on the other hand, are estimates based on reports received from a sample of all producers benchmarked to their 1958 Census of Manufactures reports. Over a period of time, most samples, including this one, are subject to increasing errors pending rebenchmarking to a complete universe. It appears that the sample for the luggage and personal leather goods survey did not completely reflect the changes in business activity of the non-sample companies and consequently the estimates differed from the results of the complete census.

In addition, the data available for the benchmark year (1958) were in less detail than that collected in the M31E survey. Therefore, "average" estimating factors were used for some of the detail items. This fact significantly affected the level of some of these estimates.

It is expected that the 1965 monthly data will be rebenchmarked to the 1963 Census of Manufactures within the next few months.

## INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

## GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE LUGGAGE INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3161)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	366	138	16,088	61,774	13,854	26,086	46,020	110,623	97,310	205,288	1,843	15,856	96,560
New England.....	30	10	1,386	5,259	1,184	2,097	3,566	11,714	11,904	23,403	( <sup>1</sup> )	1,390	8,536
Massachusetts...	21	7	505	1,664	428	755	1,352	2,288	3,508	5,851	( <sup>1</sup> )	657	3,086
Middle Atlantic...	175	78	6,413	23,054	5,646	10,371	18,270	38,800	37,826	76,373	( <sup>1</sup> )	7,342	41,720
New York.....	126	50	3,730	13,132	3,313	6,328	10,374	22,973	20,311	43,512	( <sup>1</sup> )	4,485	26,211
New Jersey.....	28	17	1,822	7,162	1,596	2,795	5,610	10,506	10,921	21,053	( <sup>1</sup> )	2,091	11,524
Pennsylvania.....	21	11	861	2,760	737	1,248	2,286	5,321	6,594	11,808	( <sup>1</sup> )	766	3,985
East North Central	82	22	1,804	6,746	1,569	3,298	4,946	10,270	10,248	20,552	( <sup>1</sup> )	1,907	11,124
Illinois.....	45	10	1,017	3,897	870	1,707	2,656	6,147	6,223	12,420	( <sup>1</sup> )	1,006	5,984
West North Central	14	6	893	3,134	808	1,547	2,590	4,824	4,394	9,171	( <sup>1</sup> )	1,034	4,729
Missouri.....	10	5	783	2,785	716	1,385	2,333	4,117	3,975	8,052	( <sup>1</sup> )	1,014	4,679
South.....	30	13	2,292	7,204	1,966	3,694	5,564	16,317	14,514	29,972	( <sup>1</sup> )	1,529	8,197
West.....	35	9	3,300	16,377	2,681	5,079	11,084	28,698	18,424	45,817	669	2,654	22,254

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF LUGGAGE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Luggage Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3161- --	Luggage, total.....	(X)	200,776	(X)	180,481
	Women's hand luggage (except zippered luggage):				
	As reported on Census Monthly Form M31E.....	17,975	164,794	(X)	(X)
	As reported in the census of manufactures.....	8,873	172,373	210,860	267,951
	Overnight, week-end, traincases, pullman, hat and shoe, wardrobe, overseas and hat boxes:				
31610 15	Hard side (except molded).....	5,090	25,626	210,860	267,951
31610 17	Soft side (lock construction).....	685	8,439		
31610 22	Molded, all types.....	2,959	36,713		
	Other women's hand luggage, including cosmetic cases, etc., but excluding vanity cases.....	139	1,595		
	Men's hand luggage (except zippered luggage):				
	As reported on Census Monthly Form M31E.....	1,641	22,649	(X)	(X)
	As reported in the census of manufactures.....	1,802	24,779	23,171	232,967
31610 35	Hard side (except molded).....	638	5,797	23,171	232,967
31610 37	Soft side (lock construction).....	219	3,770		
31610 32	Molded, all types.....	945	15,212		
	Zippered hand luggage, men's and women's:				
31610 30	As reported in the census of manufactures.....	5,113	28,434	(2)	(2)
	As reported on Census Monthly Form M31E.....	5,076	29,530	(X)	(X)
31610 53	Occupational luggage cases, sample cases, binocular and camera cases.....	1,229	7,334	(NA)	14,308
	Trunks, hand trunks, and lockers:				
31610 63	As reported in the census of manufactures.....	961	5,950	664	5,291
	As reported on Census Monthly Form M31E.....	963	6,344	(X)	(X)
	Brief bags, briefcases, envelopes and zippered ring binders, attache cases, and catalogue cases:				
	As reported in the census of manufactures.....	3,899	23,679	37,039	320,054
	As reported on Census Monthly Form M31E.....	3,397	19,835	(X)	(X)
	Brief bags:				
	Split leather:				
31610 71	As reported in the census of manufactures.....	213	1,486	(NA)	(NA)
	As reported on Census Monthly Form M31E.....	278	(NA)	(X)	(X)
	Top grain leather:				
31610 72	As reported in the census of manufactures.....	124	1,663	(NA)	(NA)
	As reported on Census Monthly Form M31E.....	142	(NA)	(X)	(X)
	Imitation leather:				
31610 74	As reported in the census of manufactures.....	1,243	3,569	(NA)	(NA)
	As reported on Census Monthly Form M31E.....	882	(NA)	(X)	(X)
	Envelopes (under arm cases and portfolios), and zippered ring binders:				
31610 75	As reported in the census of manufactures.....	703	3,622	(NA)	(NA)
	As reported on Census Monthly Form M31E.....	756	(NA)	(X)	(X)
	Attache cases:				
	As reported in the census of manufactures.....	1,536	11,758	(3)	(3)
	As reported on Census Monthly Form M31E.....	1,269	(NA)	(X)	(X)
	Catalog cases:				
31610 77	As reported in the census of manufactures.....	80	1,581	(3)	(3)
	As reported on Census Monthly Form M31E.....	70	(NA)	(X)	(X)
	School bags:				
31610 78	As reported in the census of manufactures.....	2,212	3,453	(NA)	(NA)
	As reported on Census Monthly Form M31E.....	2,181	2,837	(X)	(X)
31610 81	Musical instrument cases.....	1,429	6,608	(X)	4,096
31610 98	Other luggage.....	5,157	13,484	(X)	319,570
31610 00	Luggage, not specified by kind.....	(X)	14,682	(X)	16,244

Note: The reasons for the differences between the 1963 data collected in the census of manufactures and the current monthly survey M31E are discussed in the text. The M31E survey was not conducted in 1958, and all data for that year are from the census of manufactures.

(NA) Not available. (X) Not applicable.

<sup>1</sup>For 1963, data collected in the census of manufactures are not completely comparable to those collected on the census monthly survey M31E to the extent that vanity cases are included in the monthly survey data but are classified in Industry 3172, Small Leather Goods, in the census of manufactures.

<sup>2</sup>For 1958, separate data were not collected for zippered hand luggage. Figures for this item were included with women's and men's hand luggage, as applicable. Therefore, the data are not comparable to the 1963 information. Detailed figures were collected in 1958 by type of material (leather, plastic, and other) and are published in the census of manufactures report for that year.

<sup>3</sup>For 1958, figures for attache cases and catalog cases were not collected separately but were included with "Other luggage."

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR LUGGAGE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3161	Luggage.....1963...	93	134
	.....1958...	101	110



# 1963 CENSUS OF MANUFACTURES

MC63(P)-31B:3



INDUSTRY SERIES

preliminary  
report

## Handbags and purses

SIC Code 3171

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Handbags and Purses Industry shipped products valued at \$276 million, an increase of 19 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 9 percent from 1958 to a total 24.1 thousand employees in 1963. Value added by manufacture amounted to \$140 million in 1963, an increase of 26 percent from 1958.

The Handbags and Purses Industry includes establishments engaged primarily in the manufacture of women's handbags and purses of leather or other materials, except precious metals (Industry 3911).

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and 1963 but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE HANDBAGS AND PURSES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3171)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	537	259	24,055	87,170	21,552	40,886	69,010	140,415	135,246	276,295	1,787
1958.....	620	262	21,971	68,654	19,459	37,259	54,275	111,545	119,430	231,221	1,575
1954 <sup>3</sup> .....	714	247	22,881	61,405	20,911	39,942	49,620	93,865	100,486	194,262	972
1947 <sup>3</sup> .....	736	279	20,378	45,664	18,468	38,725	36,168	77,042	86,264	163,306	799
1939 <sup>3</sup> .....	286	(NA)	15,700	14,777	14,048	(NA)	11,239	22,929	32,878	55,807	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available for 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the years 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period. The figures for production workers, 1954, 1958 and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963, value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Handbags and Purses Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Handbags and Purses Industry amounted to \$276 million. Of this total, \$5 million were products primary to other industries; and \$13 million were receipts for miscellaneous activities. The industry shipments of primary products represented almost 100 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 96 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure appearing in table 3A, indicates that \$267 million of handbags and purses were shipped by all producers of these products. Of this total, \$263 million, or 98 percent, were shipped by plants classified in Industry 3171, Handbags and Purses, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 98.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.



## PUBLICATION PROGRAM AND BACKGROUND

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE HANDBAGS AND PURSES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3171)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)	All employ- ees, number	Value added by manufac- ture (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	537	259	24,055	87,170	21,552	40,886	69,010	140,415	135,246	276,295	1,787	21,971	111,545
New England.....	25	15	1,944	7,024	1,635	3,091	5,511	9,406	8,993	18,582	(1)	2,269	10,662
Massachusetts....	18	9	1,127	4,079	999	1,803	3,002	6,024	4,882	10,940	(1)	1,428	5,985
Middle Atlantic...	436	211	19,155	69,643	17,260	32,764	55,388	115,350	111,862	227,681	1,350	17,756	90,255
New York.....	381	172	14,348	52,846	12,826	24,291	41,640	87,576	87,438	175,531	1,028	13,357	69,911
New Jersey.....	39	25	3,453	12,752	3,196	6,158	10,456	21,258	18,746	39,934	(1)	3,133	14,514
Pennsylvania....	16	14	1,354	4,045	1,238	2,315	3,292	6,516	5,678	12,216	(1)	1,266	5,830
North Central.....	18	10	1,126	4,198	1,002	1,957	3,163	6,143	5,292	11,461	(1)	888	4,629
Missouri.....	10	8	900	3,452	793	1,576	2,512	5,184	4,446	9,628	(1)	628	3,356
South.....	36	13	977	2,864	887	1,671	2,377	4,379	5,096	9,455	(1)	601	3,206
South Atlantic..	19	8	644	1,851	597	1,119	1,587	2,798	3,147	5,948	(1)	331	2,014
West.....	22	10	853	3,441	768	1,403	2,571	5,137	4,003	9,116	(1)	457	2,793

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3A.—QUANTITY AND VALUE OF HANDBAGS AND PURSES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Handbags and Purses Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3171- --	Ladies' and children's handbags and purses, total.....	(X)	267,389	(X)	214,106
31710 11	All leather and chiefly leather.....	14,729	67,737	15,685	72,826
31710 51	Plastic or chiefly plastic.....	69,486	139,763	48,131	75,260
31710 71	Other materials, except precious metals.....	10,425	30,030	11,909	36,065
31710 00	Ladies' and children's handbags and purses, not specified by kind.....	(X)	29,859	(X)	29,955

(X) Not applicable.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR WOMEN'S HANDBAGS AND PURSES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit Value
3171	Women's handbag and purses.....1963...	117	127
	.....1958...	107	111

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-31B-4



INDUSTRY SERIES

preliminary  
report

## Small leather goods

SIC Code 3172

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Small Leather Goods Industry shipped products valued at \$154 million, an increase of 12 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 10 percent from 1958 and 11 percent from 1962 to a total of 12.2 thousand employees in 1963. Value added by manufacture amounted to \$79 million in 1963, an increase of 4 percent from 1958 but a decrease of 8 percent from 1962.

The Small Leather Goods Industry includes establishments engaged primarily in the manufacture of small articles, such as billfolds, key cases, and coin purses of leather or other materials, except precious metals which are classified in Industry 3911, "Jewelry, Precious Metal."

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE SMALL LEATHER GOODS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3172)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture <sup>1</sup>	Cost of materials	Value of shipments	Capital expend- itures, new <sup>2</sup>	Standard error of estimate (percent) for number of employees column <sup>3</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	330	116	12,225	46,664	10,129	19,128	31,483	79,120	74,991	154,331	1,301	(X)
1962 <sup>4</sup> .....	(NA)	(NA)	13,734	51,250	11,539	21,371	34,931	86,322	69,786	154,863	(1,772)	2
1961 <sup>3</sup> .....	(NA)	(NA)	13,400	47,977	11,362	21,159	32,502	80,972	64,975	144,631	(1,330)	2
1960 <sup>3</sup> .....	(NA)	(NA)	15,297	52,573	12,939	23,693	35,178	81,054	72,640	154,309	(5,650)	3
1959 <sup>3</sup> .....	(NA)	(NA)	15,140	52,009	12,703	23,741	35,330	82,256	72,675	153,437	(2,843)	3
1958.....	400	123	13,657	46,483	11,521	21,380	31,865	75,791	62,550	138,052	1,378	(X)
1954.....	425	129	14,666	44,079	12,219	23,473	30,305	69,882	53,516	124,164	1,303	(X)
1947 <sup>4</sup> .....	411	122	12,818	27,447	11,367	22,385	20,867	45,825	34,829	80,654	1,098	(X)
1939 <sup>4</sup> .....	242	(NA)	(NA)	7,714	(NA)	(NA)	6,561	15,280	12,741	28,021	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>See text regarding comparability of 1963 data with earlier years.

<sup>2</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>3</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>4</sup>Data for Alaska and Hawaii are not included.

August 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, A. Ross Eckler, Director





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Small Leather Goods Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Small Leather Goods Industry amounted to \$154 million. Of this total, \$6 million were products primary to other industries; and \$10 million were receipts for miscellaneous activities. The industry shipments of primary products represent 95 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$150 million of small leather goods were shipped by all producers of these products. Of this total, \$138 million, or 91 percent, were shipped by plants classified in Industry 3172, Small Leather Goods, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 87.

COMPARISON OF CENSUS AND CURRENT SURVEY DATA

Establishments shipping luggage, travel kits, billfolds, wallets, and French purses also report monthly on Census Form M31E, Luggage, Briefcases, and Personal Leather Goods. The 1963 data compiled from this survey are shown in table 3, together with the comparable totals reported in the census of manufactures. The M31E survey was initiated in 1960.

The two sets of 1963 data differ primarily because of the different procedures used in deriving the totals. All manufacturing plants reported in the census of manufactures. The monthly M31E data, on the other hand, are estimates based on reports received from a sample of all producers benchmarked to their 1958 Census of Manufactures reports. Over a period of time, most samples, including this one, are subject to increasing errors pending rebenchmarking to a complete universe. It appears that the sample for the luggage and personal leather goods survey did not completely reflect the changes in business activity of the non-sample companies and consequently the estimates differed from the results of the complete census.

In addition, the data available for the benchmark year (1958) were in less detail than that collected in the M31E survey. Therefore, "average" estimating factors were used for some of the detail items. This fact significantly affected the level of some of these estimates.

It is expected that the 1965 monthly data will be rebenchmarked to the 1963 Census of Manufactures within the next few months.



GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports

will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE SMALL LEATHER GOODS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3172)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture <sup>1</sup>	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture <sup>1</sup>
	Total	With 20 or more employ- ees	Number	Payroll  (\$1,000)	Number	Man-hours  (1,000)	Wages  (\$1,000)						
United States, total.....	330	116	12,225	46,664	10,129	19,128	31,483	79,120	74,991	154,331	1,301	13,657	75,791
New England.....	41	21	1,861	8,096	1,501	2,809	5,201	13,754	9,993	23,758	( <sup>2</sup> )	3,945	22,467
Massachusetts...	22	12	1,422	6,614	1,128	2,055	4,131	11,485	7,523	19,011	( <sup>2</sup> )	2,409	13,222
Middle Atlantic...	201	69	6,760	24,382	5,846	11,152	17,953	40,513	45,383	86,569	563	6,764	33,967
New York.....	156	49	5,021	18,030	4,325	8,216	13,196	30,332	29,422	59,951	( <sup>2</sup> )	4,149	21,823
New Jersey.....	36	16	1,361	4,914	1,182	2,264	3,703	8,182	13,901	22,595	( <sup>2</sup> )	1,958	9,282
Pennsylvania....	9	4	378	1,438	339	672	1,054	1,999	2,060	4,023	( <sup>2</sup> )	657	2,862
North Central.....	41	16	2,679	11,160	1,993	3,705	6,274	20,373	15,937	35,863	( <sup>2</sup> )	2,527	15,843
Illinois.....	18	8	701	2,716	608	1,100	1,928	4,592	5,710	10,186	( <sup>2</sup> )	696	4,186
South and West....	47	10	925	3,026	789	1,462	2,055	4,280	3,678	8,141	( <sup>2</sup> )	691	3,514

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>See text regarding comparability of 1963 to 1958 data.

<sup>2</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF SMALL LEATHER GOODS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Small Leather Goods Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963 <sup>1</sup>		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3172- --	Small leather goods, total.....	(X)	150,489	(X)	134,728
31720 31	Travel kits (fitted and unfitted):				
	As reported in the census of manufactures.....	2,467	6,801	1,620	3,934
	As reported on Census Monthly Survey M31E.....	2,278	6,030	( <sup>2</sup> )	( <sup>2</sup> )
31720 11	Billfolds, wallets, and French purses:				
	As reported in the census of manufactures.....	47,012	66,421	36,663	57,034
	As reported on Census Monthly Survey M31E.....	33,127	56,861	( <sup>2</sup> )	( <sup>2</sup> )
31720 15	Leather:				
	As reported in the census of manufactures.....	32,919	57,671	27,608	52,102
	As reported on Census Monthly Survey M31E.....	29,277	(NA)	( <sup>2</sup> )	( <sup>2</sup> )
31720 17	Plastic:				
	As reported in the census of manufactures.....	14,093	8,750	8,755	4,754
	As reported on Census Monthly Survey M31E.....	3,850	(NA)	( <sup>2</sup> )	( <sup>2</sup> )
31720 19	Other materials.....	( <sup>3</sup> )	( <sup>3</sup> )	300	178
31720 53	Other personal leather goods (key cases, cigarette cases, vanity cases, clutches, secretaries, pass cards, tobacco pouches, cosmetic bags, etc.): <sup>4</sup>				
	As reported in the census of manufactures.....	(X)	41,024	(X)	11,622
	As reported on Census Monthly Survey M31E.....	(X)	28,152	( <sup>2</sup> )	( <sup>2</sup> )
31720 55	Jewelry boxes and cases, and instrument cases, except musical instrument cases, total.....	31,731	25,437	(X)	55,697
	Jewelry boxes and cases.....	29,235	19,791	(X)	55,697
	Instrument cases, except musical instrument cases.....	2,496	5,646	(X)	
31720 00	Small leather goods, not specified by kind.....	(X)	10,806	(X)	6,441

(NA) Not available. (X) Not applicable.

<sup>1</sup>See text for a discussion of the reasons for discrepancies between the totals for items reported on both survey M31E and the census of manufactures.

<sup>2</sup>For 1963, quantity data for these items were also collected on Census Form M31E, Luggage, Briefcases, and Personal Leather Goods. Since this survey was begun in 1960, comparable data are not available for 1958. The 1958 data are as collected in the census of manufactures for that year.

<sup>3</sup>For 1963, no category was provided to report billfolds, wallets, and French purses of materials other than leather and plastic in either the census of manufactures or survey M31E. No information is available on where these were reported for 1963.

<sup>4</sup>The data as reported in the census of manufactures are not completely comparable to the data reported on survey M31E. On survey M31E, vanity cases are included with "Other women's hand luggage", product code 3161025, while on the census they are included in product code 3172019. The quantity of this item is not known.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-31B-5



## INDUSTRY SERIES

**preliminary  
report**

### Leather goods, n. e. c.

SIC Code 3199

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Leather Goods, N.E.C., Industry shipped products valued at \$68 million, an increase of 13 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 6 percent from 1958 to a total of 5 thousand employees in 1963. Valued added by manufacture amounted to \$33 million in 1963, an increase of 6 percent from 1958.

The Leather Goods, N.E.C., Industry includes establishments engaged primarily in the manufacture of leather goods, not elsewhere classified, such as saddlery, harness, and whips; embossed leather goods; leather desk sets; and razor strops.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and 1963 but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE LEATHER GOODS, NEC., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3199)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	371	68	5,074	18,992	4,282	8,659	13,868	33,185	35,229	67,939	769
1958.....	433	74	5,405	17,651	4,623	8,778	13,185	31,227	28,740	60,178	842
1954 <sup>3</sup> .....	489	83	5,900	16,471	5,109	9,835	12,392	29,208	29,709	58,659	340
1947 <sup>3</sup> .....	544	113	9,016	19,882	7,901	15,924	15,209	31,696	29,698	61,394	668
1939 <sup>3</sup> .....	316	(NA)	6,214	6,355	5,217	(NA)	4,475	9,913	11,116	21,029	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the years 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period. The figures for production workers, 1954, 1958, and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963, value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Leather Goods, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Leather Goods, N.E.C., Industry amounted to \$68 million. Of this total, \$8 million were products primary to other industries; and \$8 million were receipts for miscellaneous activities. The industry shipments of primary products represent 98 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 96 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$66 million of leather goods, n.e.c., were shipped by all producers of these products. Of this total, \$58 million, or 88 percent, were shipped by plants classified in Industry 3199, Leather Goods, N.E.C., while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 84.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE LEATHER GOODS, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958  
(SIC code 3199)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States total.....	371	68	5,074	18,992	4,282	8,659	13,868	33,185	35,229	67,939	769	5,405	31,227
New England.....	37	9	530	1,797	430	779	1,300	3,255	2,831	5,833	(1)	500	2,475
Massachusetts...	27	6	380	1,248	307	543	932	2,180	2,143	4,078	(1)	362	1,730
Middle Atlantic...	122	19	1,468	5,912	1,235	2,575	4,115	10,149	10,271	20,352	(1)	2,325	14,100
New York.....	95	16	1,222	4,975	1,043	2,165	3,515	8,396	8,269	16,556	(1)	1,906	11,736
North Central.....	70	13	849	3,151	706	1,436	2,220	5,413	4,745	10,166	(1)	661	3,810
Illinois.....	26	5	453	1,839	389	779	1,256	2,998	2,611	5,627	(1)	359	2,136
South Atlantic.....	23	6	729	2,442	664	1,288	2,006	3,713	4,431	8,160	(1)	792	3,748
Georgia.....	8	3	412	1,516	388	775	1,287	2,067	2,489	4,578	(1)	454	2,206
East South Central	14	5	525	1,858	461	897	1,504	3,837	5,468	9,293	(1)	305	1,497
West South Central	36	5	410	1,439	336	730	1,081	2,937	3,240	5,999	(1)	231	1,575
West.....	69	11	563	2,393	450	954	1,642	3,881	4,243	8,136	(1)	591	4,022
California.....	39	4	285	1,188	238	507	902	1,970	2,056	4,044	(1)	357	2,563

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF LEATHER GOODS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Leather Goods, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3199- --	Leather goods, n.e.c., total <sup>1</sup> .....	66,188	61,198
31990 11	Leather novelties.....	13,165	20,177
31990 31	Saddlery and harness and accouterments.....	21,376	14,178
31990 98	Other leather goods, n.e.c.....	19,815	10,358
31990 00	Leather goods, not specified by kind.....	11,832	16,485

n.e.c. Not elsewhere classified.

<sup>1</sup>The products of this industry only include leather goods that are not classified in other industries. Separate reports are being issued for the other leather goods industries such as leather tanning and finishing, industrial leather belting and packing, footwear and footwear cut stock, gloves, luggage, handbags, and other personal leather goods.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32A-1

INDUSTRY SERIES

preliminary  
report

Flat glass

SIC Code 3211

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Flat Glass Industry shipped products valued at \$553 million, an increase of 44 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 10 percent over 1958 and 4 percent over 1962 to a total of 23 thousand employees in 1963. Value added by manufacture amounted to \$366 million in 1963, an increase of 38 percent from 1958 and 16 percent over 1962.

The Flat Glass Industry includes establishments engaged primarily in the manufacture of flat glass products such as sheet (window) glass, plate glass, rolled glass, wireglass and laminated glass from glass produced in the same establishment. Establishments primarily engaged in manufacturing laminated glass from flat glass received from other establishments are classified in Industry 3231, Glass Products, Made of Purchased Glass.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.--GENERAL STATISTICS FOR THE FLAT GLASS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3211)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	31	30	22,994	173,110	19,585	39,999	144,412	365,760	187,722	552,629	28,965	(X)
1962.....	(NA)	(NA)	22,366	162,556	19,110	38,833	135,951	315,189	176,159	490,681	33,982	1
1961 <sup>2</sup> .....	(NA)	(NA)	21,159	146,221	17,938	35,493	120,681	284,585	164,731	448,483	39,013	1
1960 <sup>2</sup> .....	(NA)	(NA)	23,471	167,626	20,010	41,478	140,203	345,197	180,492	529,944	36,132	1
1959 <sup>2</sup> .....	(NA)	(NA)	27,280	180,616	23,841	46,962	155,998	400,516	174,872	557,431	18,866	1
1958.....	32	31	21,179	133,551	17,625	35,867	110,675	263,151	115,115	384,711	21,607	(X)
1954 <sup>3</sup> .....	32	30	24,559	132,509	21,389	44,344	114,966	247,175	119,576	372,689	30,964	(X)
1947 <sup>4</sup> .....	32	(NA)	25,268	77,940	22,563	46,966	67,861	158,746	64,736	223,715	(NA)	(X)
1939 <sup>5</sup> .....	37	(NA)	18,658	28,161	16,759	(NA)	24,009	68,540	33,849	102,389	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director





(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as mate-

rials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Flat Glass Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Flat Glass Industry amounted to \$553 million. This includes shipments of primary products, shipments of secondary products and miscellaneous receipts.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries, and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry. It should also be noted that table 3 includes, laminated glass made in the Products of Purchased Glass Industry to avoid disclosing figures for individual companies. (See footnotes 1 and 4 of table 3A.)

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports

will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE FLAT GLASS INDUSTRY BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3211)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)
United States, total.....	31	30	22,994	173,110	19,585	39,999	144,412	365,760	187,722	552,629	28,965	21,179	263,151
Middle Atlantic...	6	6	4,557	33,085	3,840	7,536	26,967	49,073	53,301	100,380	1,387	4,450	50,184
Pennsylvania....	6	6	4,557	33,085	3,840	7,536	26,967	49,073	53,301	100,380	1,387	4,450	50,184
North Central.....	11	10	8,468	68,040	7,381	15,393	58,668	162,567	73,538	236,218	7,752	8,766	124,831
South.....	14	14	9,969	71,985	8,364	17,070	58,777	154,120	60,883	216,031	19,826	7,963	88,136
West Virginia....	5	5	3,051	22,726	2,607	5,201	19,107	36,032	16,882	52,932	3,246	2,851	27,904

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)



Table 3A.--QUANTITY AND VALUE OF FLAT GLASS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958  
(Includes quantity and value of these products reported not only by establishments classified in the Flat Glass Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963				1958			
			Shipments and interplant transfers		Pro-duction for all purposes (quantity)	Transfers to other plants of the same company	Shipments and interplant transfers		Transfers to other plants of the same company	Value (\$1,000)
			Quantity	Value (\$1,000)			Quantity	Value (\$1,000)		
3211 --	Flat glass, total <sup>1</sup>	.....	(X)				(X)			
3211 11	Sheet (window) glass (not rolled) including colored, total.	1,000 boxes 50 sq. ft. each single strength or equiv.								
3211 22	Uncolored:	.....								
3211 23	Single strength.	.....								
3211 24	Double strength, including greenhouse.	.....								
3211 25	Heavy sheet.	.....								
3211 26	Thin, including picture glass.	.....								
3211 27	Tinted or colored (all thicknesses).	.....								
3211 28	Plate glass.	.....								
3211 29	Other flat glass:	.....								
3211 30	Rolled and wire glass <sup>3</sup>	.....								
3211 31	Other flat glass (except laminated), such as plate glass	.....								
3211 32	blanks, bent and tempered glass, glass doors, multiple-	.....								
3211 33	sealed insulating units, etc., from glass made in the	.....								
3211 34	same establishment.	.....								
3211 35	Laminated glass, including safety glass, <sup>4</sup> total.	.....								
3211 36	Laminated plate 1/4" and under.	.....								
3211 37	Laminated plate over 1/4" <sup>4</sup>	.....								
3211 38	Laminated sheet (window) glass <sup>4</sup>	.....								
3211 39	Other laminated glass <sup>4</sup>	.....								
3211 40	Flat glass, not specified by kind.	.....								

(D) Withheld to avoid disclosing figures for individual companies. (X) Not applicable.  
 shipments figure of \$171,618 thousand published in Current Industrial Reports, Series BSAF-375(63)-4, Flat Glass. Includes glass of which one or both surfaces are figured, ribbed, or textured. Excludes glass block and tile. <sup>3</sup>Includes laminated glass made in the Flat Glass Industry (3211) and laminated glass made in Products of Purchased Glass Industry (3231) combined to avoid disclosing figures for individual companies. For 1963, no production or shipments of "laminated plate, over 1/4" (code 321131), "laminated sheet (window) glass" (code 321132) or other laminated glass (code 321137) were reported in the Flat Glass Industry (3211).  
 Note: Product detail for 321122-25, 321126, and 321141 is from Current Industrial Reports Series BSAF-375, Flat Glass.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR FLAT GLASS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3211 --	Flat glass <sup>3</sup>	143	107
3211 11	Sheet (window) glass (not rolled) including colored.	98	112
3211 22	Uncolored.	127	118
3211 23	Single strength.	87	108
3211 24	Double strength, including greenhouse.	222	97
3211 25	Heavy sheet.	138	110
3211 26	Thin, including picture glass.	120	112
3211 27	Tinted or colored (all thicknesses).	95	116

<sup>1</sup>Includes laminated glass made in the Flat Glass Industry (3211) and laminated glass made in the Products of Purchased Glass Industry (3231).

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32A-2



INDUSTRY SERIES

preliminary  
report

## Glass containers

SIC Code 3221

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Glass Containers Industry shipped products valued at \$1,004 million, an increase of 16 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 9 percent over 1958, but approximately the same as 1962, to a total of 60 thousand employees in 1963. Value added by manufacture amounted to \$630 million in 1963, an increase of 18 percent from 1958 and 3 percent over 1962.

The Glass Containers Industry includes establishments engaged primarily in the manufacture of glass containers for commercial packing and bottling, and for home canning. Products of this industry include food containers, carboys, fruit jars, cosmetic jars, medicine bottles and beverage, beer, liquor, wine and milk bottles. For a more detailed list of primary products of Industry 3221, refer to table 3A, product codes 3221011 to 3221037.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.—GENERAL STATISTICS FOR THE GLASS CONTAINERS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3221)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	113	105	59,987	327,956	53,508	107,055	278,629	629,596	392,541	1,004,464	43,664	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	60,033	326,733	53,348	106,933	275,994	612,953	375,507	987,620	53,630	1
1961 <sup>2</sup> .....	(NA)	(NA)	60,152	314,480	53,653	106,566	265,058	601,248	366,673	967,405	68,930	1
1960 <sup>2</sup> .....	(NA)	(NA)	58,531	298,251	52,027	104,309	251,420	576,529	375,239	939,177	34,777	1
1959 <sup>2</sup> .....	(NA)	(NA)	56,240	271,948	50,109	98,796	228,872	561,292	354,610	915,611	32,898	1
1958.....	100	92	54,937	259,893	48,635	97,622	218,358	532,469	333,554	862,117	31,164	(X)
1954 <sup>3</sup> .....	85	83	49,410	195,944	44,076	87,672	166,107	384,647	267,222	646,104	26,542	(X)
1947 <sup>3</sup> .....	87	(NA)	47,132	126,503	41,943	87,530	107,101	252,069	191,961	422,614	(NA)	(X)
1939 <sup>3</sup> .....	77	(NA)	29,357	43,023	25,753	(NA)	34,181	98,378	59,894	158,272	(NA)	(X)

(NA) Not available. (X) Not applicable. <sup>2</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS,



(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Glass Containers Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Glass Containers Industry amounted to \$1,004 million. Of this total, \$7 million were products primary to other industries; and \$24 million were receipts for miscellaneous activities. The industry shipments of primary products represented 99 percent of the total manufactured products shipments, primary and secondary. The 1958 ratio was also 99 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$982 million of glass containers were shipped by all producers of these products. Of this total, \$974 million, or 99 percent, were shipped by plants classified in Industry 3221, Glass Containers while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 99.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities



(contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports

will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE GLASS CONTAINERS INDUSTRY BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3221)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	113	105	59,987	327,956	53,508	107,055	278,629	629,596	392,541	1,004,464	43,664	54,937	532,469
Middle Atlantic...	35	30	19,796	103,320	17,709	34,474	88,106	199,836	125,888	320,623	19,722	19,064	169,298
Pennsylvania....	15	15	8,461	43,066	7,675	14,695	37,334	78,852	49,604	127,216	4,721	9,193	74,925
East North Central	24	23	17,157	93,008	15,495	31,258	80,270	175,773	110,835	280,898	9,446	16,096	154,887
Illinois.....	11	11	9,184	51,083	8,282	16,943	44,347	102,855	60,389	159,172	3,465	7,965	83,118
South Atlantic....	17	16	9,119	49,540	8,069	16,292	41,759	90,574	56,173	143,296	3,848	8,448	83,770
West South Central	11	11	3,555	18,884	3,125	6,404	15,284	40,533	24,837	63,826	1,975	3,141	31,713
Pacific.....	18	18	7,729	49,966	6,736	13,805	41,870	97,561	59,246	155,534	5,955	6,307	75,591
All other divisions.....	8	7	2,631	13,238	2,374	4,822	11,340	25,319	15,562	40,287	2,718	1,881	17,210

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)



Table 3A.—QUANTITY AND VALUE OF GLASS CONTAINERS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Glass Containers Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963			1958		
			Production for all purposes (quantity)	Total shipments including interplant transfers		Production for all purposes (quantity)	Total shipments including interplant transfers	
				Quantity	Value (\$1,000)		Quantity	Value (\$1,000)
3221- --	Glass containers, total.....	.....	(X)	(X)	982,358	(X)	(X)	841,560
	Machine made: <sup>1</sup>							
	Narrow neck:							
32210 11	Food.....	1,000 gross	54,877	19,225	129,862	52,714	15,422	105,530
32210 13	Medicinal and health supplies.....	do.....		16,730	70,126		16,102	62,120
32210 15	Chemical, household, and industrial.....	do.....		7,235	44,261		9,658	70,171
32210 17	Toiletries and cosmetics.....	do.....		10,590	41,107		9,834	34,932
32210 19	Beverage, returnable.....	do.....		13,543	12,303		8,952	74,495
32210 21	Beverage, nonreturnable.....	do.....		3,970	3,892		1,372	1,334
32210 23	Beer, returnable.....	do.....		2,901	2,693		3,218	2,693
32210 25	Beer, nonreturnable.....	do.....		27,081	26,745		8,772	8,604
32210 27	Liquor.....	do.....		11,878	10,953		9,983	9,454
32210 29	Wine.....	do.....		5,324	5,233		4,760	4,538
	Wide mouth:							
32210 31	Food, including packers' tumblers, fruit jars and jelly glasses.....	do.....	60,463	49,199	235,321	53,537	42,854	220,607
32210 32	Medicinal and health supplies.....	do.....		4,860	18,999		4,628	18,829
32210 33	Chemical, household, and industrial.....	do.....		1,460	7,501		1,855	9,013
32210 34	Toiletries and cosmetics.....	do.....		3,481	17,207		2,962	11,873
32210 37	Dairy products.....	do.....		1,570	1,522	1,961	1,923	22,176
32210 62	Export shipments, machine-made (all types)....	do.....	(X)	1,588	8,940	(X)	2,897	13,214
32210 71	Net weight of machine-made glass containers packed.....	1,000 lbs..	(X)	<sup>2</sup> 12,856,748	(X)	(X)	10,789,356	(X)
32210 54	Hand-made, all types, domestic and export.....	1,000 gross	(X)	(X)	(X)	(NA)	(NA)	3,516
32210 00	Glass containers, not specified by kind.....	do.....	(X)	(X)	912			

Note: Comparable monthly quantity data are published in Current Industrial Reports Series M32G, Glass Containers.

<sup>1</sup>Production figures include all containers produced whether for domestic or export shipment. Shipments figures include only domestic shipments. Refer to product code 3221062 for export shipments.<sup>2</sup>Net weight was not reported for shipments totaling 11,509 thousand gross in 1963.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR GLASS CONTAINERS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3221	Glass containers.....1963...	141	111
	.....1958...	113	117

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32A-3



INDUSTRY SERIES

preliminary  
report

## Products of purchased glass

SIC Code 3231

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Products of Purchased Glass Industry shipped products valued at \$625 million, an increase of 33 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 8 percent over 1958 to a total of 26 thousand employees in 1963. Value added by manufacture amounted to \$308 million in 1963, an increase of 27 percent over 1958.

The Products of Purchased Glass Industry includes establishments engaged primarily in the manufacture of glass products from purchased glass including laminated glass; mirrors; stained and leaded glass; glassware etched, ornamented, bent, etc., and tempered, bent or enameled sheet, plate and rolled glass. For a detailed list of the products of Industry 3231 refer to table 3.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.--GENERAL STATISTICS FOR THE PRODUCTS OF PURCHASED GLASS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3231)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	983	251	25,953	137,329	21,489	43,068	104,310	308,070	319,218	624,830	12,731
1958 <sup>3</sup> .....	1,031	239	24,024	109,570	19,737	38,124	83,125	242,657	226,031	468,809	16,526
1954 <sup>4</sup> .....	(*)	(*)	21,614	87,529	18,203	36,377	68,285	193,282	190,435	386,695	5,590
1947 <sup>5</sup> .....	1,048	(NA)	23,920	61,508	20,748	38,884	48,449	129,857	84,595	214,873	(NA)
1939 <sup>6</sup> .....	557	(NA)	12,195	15,168	10,012	(NA)	10,615	23,432	26,454	49,886	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of difference that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

<sup>4</sup>Due to misclassification of small establishments between Industries 3229 and 3231 in the 1954 Census of Manufactures, no separate establishment count is available.

July 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1963 but are not included for earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Products of Purchased Glass Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Products of Purchased Glass Industry amounted to \$625 million. Of this total, \$28 million were products primary to other industries; and \$36 million were receipts for miscellaneous activities. The industry shipments of primary products represent 95 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 98 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry. In comparing these statistics it should also be noted that laminated glass has been excluded from the table 3 total. To avoid disclosing figures for individual companies it is necessary to combine laminated glass made in Industry 3211, Flat Glass with the laminated glass made in Industry 3231, Products of Purchased Glass, (see footnotes 1 and 3 of table 3). The laminated glass has been included in the total for Industry 3211.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE PRODUCTS OF PURCHASED GLASS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3231)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	983	251	25,953	137,329	21,489	43,068	104,310	308,070	319,218	624,830	12,731	24,024	242,657
New England.....	51	13	1,187	5,814	1,025	2,012	4,258	10,399	6,315	16,545	(1)	1,204	9,694
Massachusetts....	26	4	304	1,566	252	497	1,147	2,982	980	3,892	(1)	305	2,011
Connecticut.....	13	6	656	3,384	567	1,128	2,550	5,909	4,082	9,971	(1)	597	4,997
Middle Atlantic...	404	99	9,711	48,903	8,144	16,179	36,900	94,812	87,042	181,911	3,473	9,218	73,755
New York.....	207	41	3,767	18,194	3,123	6,212	13,514	33,277	24,583	57,577	1,281	3,899	30,864
New Jersey.....	105	36	2,991	14,569	2,569	5,164	10,935	26,392	19,116	45,286	734	2,028	13,695
Pennsylvania.....	92	22	2,953	16,140	2,452	4,803	12,451	35,143	43,343	79,048	1,458	3,291	29,196
East North Central	191	66	9,167	55,892	7,529	15,202	42,591	145,232	157,785	301,169	5,186	8,600	124,882
Ohio.....	65	25	3,780	23,705	3,182	6,392	19,049	56,142	72,596	125,856	3,120	3,464	59,753
Indiana.....	17	8	867	4,303	731	1,462	3,230	7,684	8,149	15,843	(1)	635	4,984
Illinois.....	60	18	2,399	15,126	1,985	3,968	11,767	40,006	39,640	79,423	883	3,294	47,983
Michigan.....	34	11	1,860	11,431	1,410	2,918	7,527	38,965	35,683	75,869	846	1,024	11,096
Wisconsin.....	15	4	261	1,327	221	462	1,018	2,435	1,717	4,178	(1)	183	1,066
West North Central	48	7	470	2,356	360	684	1,532	5,077	5,500	10,584	(1)	389	3,237
Missouri.....	25	4	267	1,358	208	392	930	2,559	1,612	4,196	(1)	231	2,002
South Atlantic....	89	29	2,630	10,642	2,174	4,443	7,815	20,303	34,399	54,490	726	2,629	16,898
Virginia.....	9	7	600	2,453	487	990	1,558	4,534	11,631	16,269	(1)	585	4,647
West Virginia....	17	6	359	1,217	289	639	1,024	2,633	2,084	4,676	(1)	404	1,813
North Carolina....	12	6	824	3,597	708	1,439	2,840	6,597	15,072	19,408	(1)	833	5,338
Florida.....	27	4	296	1,115	242	481	821	2,318	3,703	6,153	(1)	446	2,568
East South Central and West South Central.....	54	9	976	3,742	836	1,680	3,005	9,722	7,849	17,551	1,000	596	3,903
West.....	146	28	1,812	9,980	1,421	2,868	7,006	22,525	20,328	42,580	1,546	1,378	10,468
California.....	108	22	1,568	8,774	1,217	2,458	6,177	20,273	17,902	37,903	1,175	1,226	8,927

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.--QUANTITY AND VALUE OF PRODUCTS OF PURCHASED GLASS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Products of Purchased Glass Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 square feet)	Value (\$1,000)	Quantity (1,000 square feet)	Value (\$1,000)
3231- --	Glass products made of purchased glass, except laminated, total <sup>1</sup> .....	(X)	412,319	(X)	279,316
32315 --	Mirrors, total.....	(X)	123,573	(X)	87,974
	Mirrors - framed (decorated and undecorated):				
32315 11	Plate glass:				
	Quantity reported.....	7,974	15,760	r18,812	24,737
	Quantity not reported.....	(X)	9,549		
32315 51	Other glass.....	(S)	37,272	(NA)	5,371
	Mirrors - unframed (decorated and undecorated):				
32315 61	Plate glass:				
	Quantity reported.....	34,076	26,945	(NA)	24,666
	Quantity not reported.....	(X)	9,049		
32315 63	Other glass:				
	Quantity reported.....	27,263	13,528	(NA)	11,222
	Quantity not reported.....	(X)	2,468		
32315 98	Automotive rearview mirrors.....	(X)	( <sup>2</sup> )	(X)	16,208
32315 00	Mirrors, not specified by kind.....	(X)	9,002	(X)	5,770
32316 --	Other glass products made of purchased glass, total.....	(X)	276,419	(X)	157,095
	Glassware, etched, ornamented, bent, etc:				
32316 31	Tumblers, goblets and other stemware.....	(X)	8,101	(X)	12,050
32316 35	Tableware (except tumblers, goblets, and other stemware), including tableware from flat glass.....	(X)	6,181	(X)	6,514
32316 39	All other glassware (except flat glass products) including technical and scientific.....	(X)	59,069	(X)	44,924
32316 11	Plate glass, except tempered, bent, or enameled.....	1,361	2,005	(X)	93,605
32316 21	Stained and leaded glass and stained glass slabs.....	(S)	6,880		
32316 71	Multiple - glazed, sealed insulating glass units.....	(X)	31,232		
32316 98	Other glass products (except laminated) such as tempered, bent (except when made into tableware), or enameled sheet, plate, and rolled glass; shower doors and tub enclosures; automobile glass other than laminated (cut, leveled and polished); watch crystals, etc.....	(X)	148,534		
32316 00	Other glass products made of purchased glass, not specified by kind...	(X)	14,417	(X)	(X)
32310 00	Products made of purchased glass, not specified by kind.....	(X)	12,327	(X)	34,247
32113 --	Laminated glass, including safety glass, total <sup>3</sup> .....	r187,537	r316,926	(X)	253,829
32313 --	Laminated plate 1/4 inch and under.....	162,693	295,006	115,635	216,969
32113 11	Laminated plate over 1/4 inch.....				
32113 31	Laminated sheet (window) glass.....				
32113 51	Other laminated glass.....	r24,844	r21,920	(X)	37,133

(NA) Not available. (S) Does not meet publication standards. (X) Not applicable. r Revised.

<sup>1</sup>Total excludes product class 32313, Laminated Glass. See footnote 3.<sup>2</sup>Separate data were not collected for automotive rearview mirrors for 1963. An indeterminate amount is included in product codes 3231511-3231563.<sup>3</sup>Includes laminated glass made in the Flat Glass Industry (3211) and the Products of Purchased Glass Industry (3231), combined to avoid disclosing figures for individual companies. For 1963, no production or shipments of "Laminated plate, over 1/4 inch" (code 3211331), "Laminated sheet (window) glass" (code 3211351) or "Other laminated glass" (code 3211371) were reported in the Flat Glass Industry (3211). Figures on laminated glass were also published as part of the 1963 Census of Manufactures preliminary report for Industry 3211, Flat Glass. The revisions shown in this report supersede those figures.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32A-4



INDUSTRY SERIES

preliminary  
report

Pressed and blown glass, n.e.c.

SIC Code 3229

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Pressed and Blown Glass, N.E.C., Industry shipped products valued at \$634 million, an increase of 42 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 9 percent over 1958 to a total of 38,2 thousand employees in 1963. Value added by manufacture amounted to \$474 million in 1963, an increase of 52 percent over 1958.

The Pressed and Blown Glass, N.E.C., Industry includes establishments engaged primarily in the manufacture of glass and glassware not elsewhere classified, pressed, blown, or shaped from glass produced in the same establishment. Establishments primarily engaged in manufacturing textile-type glass fibers are also included in this industry, but establishments primarily engaged in manufacturing glass wool insulation products are classified in Industry 3296. Establishments primarily engaged in the production of pressed lenses for vehicular lighting, beacons, and lanterns and moulded lens blanks are also included in this industry, but establishments primarily engaged in the production of optical lenses are classified in Industry 3831. Establishments primarily engaged in manufacturing glass containers are classified in Industry 3221, and complete electric light bulbs in Industry 3641.

Table 1.--GENERAL STATISTICS FOR THE PRESSED AND BLOWN GLASS, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3229)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	107	94	38,181	208,167	33,218	65,157	168,635	474,076	168,561	633,829	22,702
1958.....	140	99	35,358	161,296	30,473	58,974	131,851	312,342	128,892	445,361	19,387
1954 <sup>3</sup> .....	(4)	(4)	41,924	158,623	35,006	66,673	121,776	294,192	117,757	416,021	10,875
1947 <sup>3</sup> .....	126	(NA)	42,170	103,734	37,474	75,249	86,853	169,449	69,863	234,795	(NA)
1939 <sup>3</sup> .....	115	(NA)	31,320	38,975	27,330	(NA)	30,115	70,284	27,033	97,317	(NA)

(NA) Not available. <sup>1</sup>Revised.

<sup>2</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>3</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>4</sup>Data for Alaska and Hawaii are not included.

<sup>5</sup>Due to misclassification of small establishments between Industries 3229 and 3231 in the 1954 Census of Manufactures, no separate establishment count is available.

June 1965

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel,

purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Pressed and Blown Glass, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Pressed and Blown Glass, N.E.C., Industry amounted to \$634 million. Of this total, \$20 million were products primary to other industries; and \$10 million were receipts for miscellaneous activities. The industry shipments of primary products represent 97 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 98 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$620 million of pressed, blown or otherwise shaped glassware, not elsewhere classified were shipped by all producers of these products. Of this total, \$604 million, or 97 percent, were shipped by plants classified in Industry 3229, Pressed and Blown Glass, N.E.C., while the remainder was shipped by plants classified in other industries. The comparable 1958 percentage was also 97.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE PRESSED AND BLOWN GLASS, N.E.C., INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3229)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	107	94	38,181	208,167	33,218	65,157	168,635	474,076	168,561	633,829	22,702	<sup>r</sup> 35,358	312,342
Middle Atlantic....	25	20	11,358	66,260	9,854	19,419	53,484	117,975	43,954	160,408	5,727	<sup>r</sup> 11,955	99,325
Pennsylvania....	15	14	4,930	26,445	4,236	8,021	21,212	50,033	18,521	67,669	2,229	5,505	44,661
East North Central	26	25	12,634	69,923	10,777	20,392	56,428	172,172	61,078	230,747	4,618	12,391	126,828
South Atlantic....	37	33	10,136	49,915	9,082	18,218	41,398	130,273	43,885	171,236	9,283	7,459	51,102
Pacific.....	6	4	436	2,636	380	769	2,156	5,511	2,024	6,433	( <sup>1</sup> )	105	1,020
All other divisions.....	13	12	3,617	19,433	3,125	6,359	15,169	48,145	17,620	65,005	2,926	<sup>r</sup> 3,448	<sup>r</sup> 34,067

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>r</sup>Revised.<sup>1</sup>Less than \$500 thousand.



Table 3.--QUANTITY AND VALUE OF PRESSED AND BLOWN GLASS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Pressed and Blown Glass, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3229- --	Pressed and blown glass, n.e.c., total.....		(X)	<sup>r</sup> 619,923	(X)	<sup>r</sup> 447,997
32291 --	Table, kitchen, art, and novelty glassware, total <sup>1</sup> .....		(X)	216,226	(X)	149,006
	Machine-made (includes glassware made by machine with automatic and semi-automatic feeds):					
32291 11	Tumblers (except those designed exclusively for use as packers), goblets, and other stemware.....	1,000 dozen...	60,380	63,721	56,195	50,887
32291 12	Tableware (designed for serving food and drink; excluding tumblers, goblets and other stemware).....	..do.....	(X)	106,184	23,297	27,401
	Kitchenware and cookingware (designed for preparing, cooking and storing food):					
32291 13	Custard cups, cake and bread bakers, casseroles, and pie plates.....	1,000 pieces..			52,195	12,041
32291 14	Coffee and beverage makers (excluding tea kettles).....	..do.....			(NA)	(NA)
32291 15	Other kitchenware and cookingware (including top-of-stove ware).....	..do.....			(NA)	(NA)
32291 16	Ornamental, decorative, novelty glassware and smokers' accessories.....	1,000 dozen...	7,934	13,303	6,014	8,699
	Hand-made:					
	Pressed ware:					
32291 17	Tumblers, goblets, and other stemware.....	..do.....	271	2,517	368	2,344
32291 18	Tableware (excluding tumblers, goblets, and other stemware).....	..do.....	540	6,371	459	6,194
32291 19	Other, including ornamental, decorative, and novelty glassware, and smokers' accessories.....		(X)	7,108	(NA)	(NA)
	Blown ware:					
32291 20	Tumblers.....	1,000 dozen...	873	3,005	479	2,050
32291 21	Goblets and other stemware (including footed ware).....	..do.....	965	7,075	1,029	7,483
32291 22	Other, including ornamental, decorative, and novelty glassware, and smokers' accessories.....		(X)	6,942	(NA)	(NA)
32292 --	Lighting and electronic glassware, total <sup>1 2</sup> .....		(X)	210,261	(X)	143,286
32292 12	Bowls and enclosing globes (all types including lantern globes), lamp chimneys, lamp parts, shades, reflectors, and torchiers.....		(X)	21,673	(X)	16,756
32292 13	Automotive (including sealed beam), searchlight, and other lenses (including railroad, marine, air, and traffic lighting glassware) <sup>2 3</sup> .....		(X)	22,882	(NA)	(NA)
32292 14	Electric-light bulb blanks.....		(X)	38,463	(X)	124,573
32292 15	Tubing and cane for electric light bulbs (including exhaust tubes and flares for fluorescent lamps).....					
32292 16	Electronic-tube blanks (radio, X-ray, radar and special tubes).....					
32292 17	Tubing, cane and other glass parts for electronic tubes and devices.....					
32292 18	Television tube blanks and parts.....		(X)	120,440	(X)	
32292 19	Other electrical discharge tubing, including fluorescent and neon.....					
32292 20	Other interior and exterior lighting glassware, (including shields and plates for fluorescent and incandescent lighting fixtures, etc.).....					

Product code	Product	Production for all purposes (1,000 pounds)	1963		1958	
			Total shipments including interplant transfers		Total shipments including interplant transfers	
			Quantity (1,000 pounds)	Value (\$1,000)	Quantity (1,000 pounds)	Value (\$1,000)
32293 --	Textile trade fiber, total <sup>4</sup> .....	<sup>5</sup> 199,966	<sup>5</sup> 191,904	91,123	(X)	113,484
32293 21	Yarn, strand, staple yarn, and sliver.....	<sup>5</sup> 142,992	<sup>5</sup> 134,536	71,555	(NA)	113,484
32293 25	Mat.....					
32293 23	Roving chopped strand and milled fiber.....					
32294 --	All other pressed and blown glassware, total <sup>1 2</sup> .....	(X)	(X)	<sup>r</sup> 102,313	(X)	(X)
32294 11	Tubing, rod, and canes, all types (except electrical and electronic).....	(X)	(X)	49,092	(X)	(X)
32294 12	Scientific and laboratory glassware.....				(X)	16,419
32294 13	All other technical glassware (included insulators), except lighting and electronic glassware.....				(X)	(X)
32294 14	Industrial glassware (including such products as gauge glasses, instrument faces, machine parts, glass knobs, meter covers, pumps, battery jars, etc.).....				(X)	(X)
32294 15	Ophthalmic lens blanks, optical instrument lens blanks, sun glass lenses and other eye-protective lenses.....	(X)	(X)	24,218	(X)	(X)
	Other (including glass blocks, stationers' ware, nursery bottles, Christmas tree ornaments; etc.):			<sup>r</sup> 28,234	(X)	(NA)
32294 16	Machine made.....	(X)	(X)		(X)	(NA)
32294 17	Hand made.....	(X)	(X)		(X)	1,262
32294 00	Other pressed and blown glassware, not specified by kind.....	-	-	-	(X)	(X)

- Represents zero. n.e.c. Not elsewhere classified. (NA) Not available. (X) Not applicable. <sup>r</sup>Revised.

<sup>1</sup>Statistics on shipments of pressed and blown glassware were collected on Form MA-32E and previously published in Current Industrial Reports Series M32E.

<sup>2</sup>Product class totals for 32292 and 32294 are not directly comparable between 1958 and 1963. In 1958, certain lenses, e.g., automotive (including sealed beam) lantern, searchlight, etc., were included with "Other Pressed and Blown Glassware" (32294) the exact amount of which is not available. For 1963 these lenses are classified in Product Class 32292, Lighting and Electronic Glassware.

<sup>3</sup>Shipments of railroad, marine and traffic lighting glassware were valued at \$1,957 thousand in 1958.

<sup>4</sup>Data for fibrous glass were collected on Form MA-32J and previously published in Current Industrial Reports Series M32J.

<sup>5</sup>Quantities include normal sizing, but exclude the weight of vinyl, polyester, and other synthetics used in coatings.



# 1963 CENSUS OF MANUFACTURES

MC63(P)-32B-1



INDUSTRY SERIES

preliminary  
report

Cement, hydraulic

SIC Code 3241

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Cement, Hydraulic, Industry shipped products valued at \$1,176 million, an increase of 9 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 15 percent from 1958 and 2 percent from 1962 to a total of 35 thousand employees in 1963. Value added by manufacture amounted to

\$785 million in 1963, an increase of 9 percent from 1958 and 2 percent from 1962.

The Cement, Hydraulic, Industry includes establishments engaged primarily in the manufacture of hydraulic cement, including portland, natural, masonry, and pozzolan cements. For a detailed list of products of Industry 3241 refer to table 3A. In its annual report *Minerals Yearbook*, the U.S. Department of the Interior, Bureau of Mines publishes detailed figures on the products listed in table 3A of this report. The variation between Bureau of Mines summary totals and the data appearing in this report are due to (1) inclusion of cost of containers and interplant transfers in Census

Table 1.—GENERAL STATISTICS FOR THE CEMENT, HYDRAULIC, INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3241)

Year	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	187	178	34,767	226,935	28,613	57,428	173,630	784,906	388,093	1,175,871	113,188	(X)
1962 <sup>3</sup> .....	(NA)	(NA)	35,520	220,948	29,698	59,072	171,076	771,830	360,394	1,131,071	96,735	3
1961 <sup>2</sup> .....	(NA)	(NA)	36,388	218,107	30,533	60,519	170,553	752,877	355,423	1,107,872	100,223	2
1960 <sup>2</sup> .....	(NA)	(NA)	39,357	227,919	33,249	66,728	180,198	760,817	366,792	1,112,330	114,350	2
1959 <sup>2</sup> .....	(NA)	(NA)	41,129	229,757	35,036	71,213	183,033	815,132	379,453	1,190,995	119,436	1
1958.....	175	170	41,127	214,221	34,780	69,481	170,156	724,771	354,391	1,073,494	113,095	(X)
1954 <sup>3</sup> .....	162	160	39,769	167,659	34,036	70,839	134,777	525,667	285,388	814,923	73,015	(X)
1947 <sup>3</sup> .....	155	(NA)	35,662	98,626	30,639	66,341	79,861	247,936	160,992	408,928	42,488	(X)
1939 <sup>2</sup> .....	160	(NA)	28,197	42,583	23,801	(NA)	31,588	124,081	68,530	192,611	(NA)	(X)

(NA) Not available. (X) Not applicable. <sup>2</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



Bureau figures and (2) differences in the reports submitted to the two agencies by individual companies.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of

finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Cement, Hydraulic, Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Cement, Hydraulic, Industry amounted to \$1,176 million. The industry shipments of primary products represent approximately 99 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 99 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$1,161 million of hydraulic cements were shipped by all producers of these products. Of this total, more than 99 percent, were shipped by plants classified in Industry 3241, Cement, Hydraulic, while the remainder was shipped by plants classified in other industries. The comparable percentage for 1958 was also more than 99.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.



## 1963 CENSUS OF MANUFACTURES

3

## GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports

will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE CEMENT, HYDRAULIC, INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3241)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	187	178	34,767	226,935	28,613	57,428	173,630	784,906	388,093	1,175,871	113,188	41,127	724,771
Northeast.....	37	36	7,031	46,885	5,958	11,760	36,719	124,024	73,088	198,481	11,400	9,214	141,241
Pennsylvania....	23	23	4,786	31,316	4,064	7,843	24,417	84,080	46,708	131,022	9,006	6,455	101,644
East North Central	31	28	6,808	45,973	5,535	11,269	34,808	163,515	74,694	241,263	19,128	9,063	152,958
Ohio.....	9	9	1,809	12,090	1,439	2,903	8,736	37,326	16,686	54,370	6,592	2,362	36,817
Indiana.....	5	5	1,642	10,137	1,300	2,487	7,431	35,474	18,121	54,752	1,472	2,514	37,473
Michigan.....	9	7	2,032	15,171	1,621	3,513	11,357	55,605	25,471	82,834	2,218	2,620	49,056
West North Central	20	20	4,306	26,576	3,660	7,092	21,198	100,087	37,484	137,699	6,173	4,996	99,197
Iowa.....	5	5	1,270	8,475	1,110	2,284	7,027	32,045	13,625	45,650	3,493	1,423	29,561
Missouri.....	5	5	1,265	7,498	1,069	1,922	5,885	31,396	11,190	43,103	75	1,504	30,293
Kansas.....	7	7	1,146	6,750	930	1,831	5,094	20,930	6,500	27,434	(D)	1,307	24,489
South Atlantic....	17	16	2,992	18,434	2,574	5,173	14,876	68,748	37,001	104,859	(D)	3,198	55,012
East South Central	18	18	2,703	17,250	2,176	4,473	12,973	63,496	34,608	97,937	(D)	3,144	56,277
Alabama.....	9	9	1,266	8,157	1,007	2,089	6,023	30,304	19,006	49,282	723	1,607	30,619
West South Central	28	25	4,004	24,184	3,099	6,401	16,944	109,738	42,589	150,896	17,857	4,189	88,539
Texas.....	18	16	2,613	15,482	2,085	4,287	11,026	69,915	26,650	95,416	9,394	2,689	62,100
Mountain.....	11	11	1,479	9,849	1,249	2,492	7,891	43,516	17,251	60,211	13,671	1,527	32,827
Pacific.....	25	24	5,444	37,784	4,362	8,768	28,221	111,782	71,378	184,525	14,246	5,796	98,720
California.....	14	13	4,353	30,424	3,475	7,034	22,600	93,173	55,740	149,344	13,511	4,742	86,574

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.



## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF CEMENT, HYDRAULIC, SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Cement, Hydraulic, Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963			1958		
			Production for all purposes (quantity)	Total shipments including interplant transfers		Production for all purposes (quantity)	Total shipments including interplant transfers	
				Quantity	Value (\$1,000)		Quantity	Value (\$1,000)
3241- —	Cement, hydraulic, total.....	.....	(X)	(X)	1,160,827	(X)	(X)	1,062,849
32410 11	Portland cement.....	1,000 bbls. of 376 lbs.....	333,434	336,048	1,093,218	303,992	304,704	979,084
32410 31	Prepared or mixed hydraulic and masonry cements other than special portlands.....	1,000 bbls. of 280 lbs.....	(S)	(S)	64,472	19,133	19,811	53,270
32410 51	Natural, masonry-natural, pozzolan (slag lime), and hydraulic lime cements.....	1,000 bbls. of 376 lbs.....	728	695	2,390	1,050	957	3,208
95120 31	Cost of containers for above cements and mortars..	.....	(X)	(X)	( <sup>1</sup> )	(X)	(X)	24,236
32410 00	Cement, hydraulic, not specified by kind.....	.....	(X)	(X)	747	(X)	(X)	3,051

(S) Does not meet publication standards. (X) Not applicable.

<sup>1</sup>For 1963 included in values of products shipped.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR CEMENT, HYDRAULIC, SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3241-	Cement, hydraulic.....1963...	123	116
	.....1958...	113	116

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-328-2



INDUSTRY SERIES

preliminary  
report

## Brick and structural tile

SIC Code 3251

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Brick and Structural Tile Industry shipped products valued at \$325 million, an increase of 13 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 7 percent from 1958 to a total of 29 thousand employees in 1963. Value added by manufacture amounted to \$216 million in 1963, an increase of 10 percent over 1958.

The Brick and Structural Tile Industry includes establishments engaged primarily in the manufacture of clay building brick, vitrified paving brick and hollow structural tile. Establishments primarily engaged in manufacturing clay firebrick are classified in Industry 3255, Clay Refractories; nonclay firebrick in Industry 3297, Nonclay Refractories; sand lime brick in Industry 3299, Nonmetallic Minerals, N.E.C.; and glass brick in Industry 3229, Pressed and Blown Glass, N.E.C. For a detailed list of products of Industry 3251, refer to table 3A.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing

Table 1.—GENERAL STATISTICS FOR THE BRICK AND STRUCTURAL TILE INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3251)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	512	399	28,938	130,546	24,687	51,065	102,948	216,388	106,284	325,052	19,016
1958.....	569	430	31,087	122,868	26,955	55,316	97,196	196,890	89,410	286,709	14,023
1954 <sup>3</sup> .....	610	459	32,426	114,740	28,751	61,048	93,114	184,017	77,404	262,590	16,233
1947 <sup>3</sup> .....	674	(NA)	29,617	69,399	27,002	58,367	59,876	110,867	37,640	144,497	13,266
1939 <sup>3</sup> .....	800	(NA)	32,962	33,877	29,069	(NA)	26,349	55,684	22,469	78,153	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

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establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments in Brick and Structural Tile Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Brick and Structural Tile Industry amounted to \$325 million. Of this total, \$6 million were products primary to other industries; and \$15 million were receipts for miscellaneous activities. The industry shipments of primary products represented 98 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 96 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$308 million of brick and structural tile were shipped by all producers of these products. Of this total, \$303 million, or 98 percent, were shipped by plants classified in Industry 3251, Brick and Structural Tile while the remainder was shipped by plants classified in other industries. The comparable 1958 percentage was also 98.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an



industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing

industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE BRICK AND STRUCTURAL TILE INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3251)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	512	399	28,938	130,546	24,687	51,065	102,948	216,388	106,284	325,052	19,016	31,087	196,890
New England.....	23	12	616	2,746	548	1,064	2,339	4,511	3,701	8,247	261	730	4,179
Connecticut.....	8	5	256	1,358	231	485	1,213	2,311	2,154	4,611	129	354	2,222
Middle Atlantic...	61	49	3,242	17,906	2,829	5,941	14,787	29,652	12,643	42,720	1,558	4,600	33,798
Pennsylvania....	39	34	2,119	11,184	1,822	3,739	9,121	19,241	7,924	27,645	1,027	2,815	21,595
East North Central	94	76	5,994	31,548	5,213	10,627	25,744	48,418	23,262	71,643	3,348	7,666	53,907
Ohio.....	45	43	3,327	17,689	2,883	5,767	14,180	28,168	13,494	41,921	1,966	4,066	31,326
Indiana.....	20	15	1,303	6,655	1,138	2,448	5,631	9,109	5,114	14,249	883	1,651	9,281
Illinois.....	21	18	1,223	6,469	1,067	2,132	5,312	10,159	4,261	14,119	462	1,669	12,291
West South Central	38	31	1,564	7,156	1,339	2,639	5,677	11,640	7,527	19,534	2,278	1,634	11,216
Iowa.....	11	10	445	1,819	363	516	1,464	2,987	3,151	6,422	831	644	4,646
Kansas.....	8	7	372	1,829	323	719	1,418	2,823	1,036	4,017	367	400	2,652
South Atlantic....	89	77	6,766	27,246	5,772	12,174	20,648	50,668	22,661	74,100	3,812	5,775	32,450
Maryland.....	10	8	529	2,288	462	994	1,828	4,473	1,613	6,199	204	525	3,963
Virginia.....	13	12	805	3,241	721	1,530	2,634	7,650	2,812	10,658	453	740	4,360
West Virginia...	7	5	367	1,542	320	625	1,268	1,976	1,145	3,100	76	306	1,596
North Carolina...	29	27	2,053	8,692	1,682	3,743	6,313	16,700	7,856	24,555	1,282	1,721	10,950
Georgia.....	9	8	1,633	6,147	1,374	2,857	4,458	10,929	4,235	15,432	603	1,487	6,923
East South Central	55	45	3,329	11,849	2,682	5,575	9,500	24,881	10,988	36,580	2,763	3,055	17,362
Alabama.....	18	14	1,392	4,170	999	2,037	3,493	8,623	3,531	12,611	739	1,202	6,868
Mississippi.....	18	15	803	2,926	673	1,445	2,139	6,141	3,125	9,361	990	683	3,881
West South Central	81	62	4,621	17,021	4,033	8,620	13,394	23,888	11,886	36,206	3,357	4,570	23,230
Arkansas.....	8	8	743	2,871	657	1,340	2,277	2,905	2,290	5,653	249	683	4,157
Louisiana.....	11	7	381	1,391	335	691	1,135	1,438	1,035	2,537	(D)	446	1,943
Oklahoma.....	12	10	425	1,523	368	750	1,183	1,849	1,081	2,894	(D)	517	3,053
Texas.....	50	37	3,072	11,236	2,673	5,839	8,799	17,696	7,480	25,122	2,403	2,924	14,077
Mountain.....	26	16	1,512	8,311	1,208	2,367	5,788	11,401	7,891	18,775	1,051	1,672	11,243
Colorado.....	7	6	819	4,535	650	1,259	2,977	6,331	4,146	10,169	570	812	6,142
Pacific.....	45	31	1,294	6,763	1,063	2,058	5,071	11,329	5,725	17,247	588	1,385	9,505

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF BRICK AND STRUCTURAL CLAY TILE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Brick and Structural Tile Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963			1958		
			Production for all purposes (quantity)	Total shipments including interplant transfers		Production for all purposes (quantity)	Total shipments including interplant transfers	
				Quantity	Value (\$1,000)		Quantity	Value (\$1,000)
3251- --	Brick and structural clay tile, total.....	.....	(X)	(X)	308,329	(X)	(X)	268,887
32511 --	Brick (except ceramic glazed and refractory brick), total.....	1,000 bricks	7,175,369	7,066,747	299,652	6,401,464	6,332,881	212,700
32511 11	Building or common, and face (2-1/4" x 3-5/8" x 7-5/8" equivalent).....	...do.....	7,100,134	6,994,377	256,615	6,318,714	6,254,990	209,356
32511 19	Other brick (paving, floor, and sewer) 2-1/4" x 3-5/8" x 7-5/8" equivalent.....	...do.....	75,235	72,370	3,037	82,750	77,891	3,344
32512 --	Glazed brick and structural hollow tile, total.....	.....	(X)	(X)	35,793	(X)	(X)	43,241
32512 11	Structural clay tile, except facing, including load-bearing and nonload-bearing tile, silo tile, corner tile, structural floor tile, etc.....	Short tons..	310,070	312,297	5,140	570,973	548,336	8,998
32512 31	Facing tile (structural) and ceramic glazed brick: Ceramic glazed facing tile and ceramic glazed brick (2-1/4" x 3-5/8" x 7-5/8" equivalent)....	1,000 bricks	391,109	367,718	29,167	425,902	399,147	31,508
32512 51	Unglazed and salt glazed facing tile (8" x 5" x 12" equivalent).....	1,000 tiles.	7,764	7,596	1,486	16,553	15,764	2,735
32510 00	Brick and structural clay tile, not specified by kind.....	.....	(X)	(X)	12,884	(X)	(X)	12,946

Note: While these data should be considered preliminary, they do supersede the figures published for comparable products in Current Industrial Reports Series M32D(63)-13, "Clay Construction Products," Summary for 1963.

(X) Not applicable.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR BRICK AND STRUCTURAL CLAY TILE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Indexes (1954 = 100)

Product code	Product and year	Production	Unit value
3251-	Brick and structural clay tile.....1963...	102	125
	.....1958...	96	115
32511	Brick, except ceramic glazed and refractory bricks.....1963...	106	126
	.....1958...	94	115
32512	Glazed brick and structural hollow tile.....1963...	71	119
	.....1958...	87	118

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32B-3



## INDUSTRY SERIES

preliminary  
report

### Ceramic wall and floor tile

SIC Code 3253

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Ceramic Wall and Floor Tile Industry shipped products valued at \$165 million, an increase of 22 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry of 13 thousand for 1963, was approximately the same as 1958. Value added by manufacture amounted to \$111 million in 1963, an increase of 19 percent from 1958.

The Ceramic Wall and Floor Tile Industry includes establishments engaged primarily in the manufacture of ceramic wall and floor tile and includes glazed wall tile, ceramic mosaic tile and quarry tile. Establishments primarily engaged in manufacturing structural clay tile and facing tile (structural) are classified in Industry 3251, Brick and Structural Clay Tile. For a detailed list of products of Industry 3253, refer to table 3.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE CERAMIC WALL AND FLOOR TILE INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3253)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	90	64	12,808	63,821	10,351	21,022	43,833	110,758	55,092	164,745	5,283
1958 <sup>3</sup> .....	90	62	13,068	53,738	10,889	21,768	41,494	92,779	44,095	135,470	3,276

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that data for the industry prior to 1958 are not directly comparable. Details of this revision are described in the 1958 Census of Manufactures Volume II, Industry Statistics.

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and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

All employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March.

#### VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Ceramic Wall and Floor Tile Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Ceramic Wall and Floor Tile Industry amounted to \$165 million. Of this total, \$7 million were products primary to other industries; and \$15 million were receipts for miscellaneous activities. The industry shipments of primary products represented 95 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 94 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$143 million of ceramic wall and floor tile were shipped by all producers of these products. Of this total, 99 percent were shipped by plants classified in Industry 3253, Ceramic Wall and Floor Tile while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 99.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

## 1963 CENSUS OF MANUFACTURES

3

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the

United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE CERAMIC WALL AND FLOOR TILE INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3253)

Geographic Area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)
United States, total.....	90	64	12,808	63,821	10,351	21,022	43,833	110,758	55,092	164,745	5,283	13,068	92,779
Northeast.....	19	12	2,862	15,284	2,353	4,866	10,940	26,681	11,692	38,345	1,242	2,799	22,916
North Central.....	19	13	3,933	20,294	3,199	6,349	13,707	33,193	13,777	46,034	1,057	4,655	27,554
Ohio.....	12	10	3,429	18,251	2,787	5,485	12,218	30,147	12,266	41,497	975	3,998	23,874
South.....	26	23	3,561	14,584	2,949	6,125	10,326	26,834	19,115	46,102	1,557	3,204	21,197
Texas.....	10	10	1,250	4,770	1,003	2,025	2,876	6,994	8,034	15,327	366	1,204	7,727
West.....	26	16	2,452	13,659	1,850	3,682	8,860	24,050	10,508	34,264	1,427	2,410	21,112
California.....	21	16	2,406	13,456	1,813	3,605	8,709	23,795	10,316	33,650	1,420	2,300	20,477

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF CERAMIC WALL AND FLOOR TILE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Ceramic Wall and Floor Tile Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963			1958		
			Production for all purposes  (quantity)	Total shipments including interplant transfers		Production for all purposes  (quantity)	Total shipments including interplant transfers	
				Quantity	Value (\$1,000)		Quantity	Value (\$1,000)
3253- --	Ceramic wall and floor tile, total.....	.....	(X)	(X)	143,290	(X)	(X)	124,196
32530 71	Quarry tile and promenade tile.....	1,000 sq. ft.	25,150	23,846	9,648	20,598	18,569	6,579
	Ceramic mosaic tile (tiles having a facial area of less than 6 square inches):							
32530 13	Glazed.....	...do.....	10,097	9,815	5,660	207,312	198,079	113,645
32530 53	Unglazed.....	...do.....	35,635	35,396	18,681			
32530 15	Other glazed floor and wall tile.....	...do.....	215,126	205,539	108,060	}	(X)	(X)
32530 55	Other unglazed floor and wall tile.....	...do.....	}	(X)	1,241			
32530 00	Ceramic wall and floor tile, not specified by kind..	...do.....			(X)	(X)	3,972	

(X) Not applicable.

<sup>1</sup>Although this figure should be considered preliminary it supersedes the figure previously reported for clay floor and wall tile in Current Industrial Reports Series M32D(63)-13, Clay Construction Products, Summary for 1963.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR CERAMIC WALL AND FLOOR TILE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3253- --	Ceramic wall and floor tile.....1963...	166	99
	.....1958...	132	106

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32B-4



## INDUSTRY SERIES

preliminary  
report

### Clay refractories

SIC Code 3255

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Clay Refractories Industry shipped products valued at \$192 million, an increase of 17 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 8 percent from 1958 and 4 percent from 1962 to a total of 12 thousand employees in 1963. Value added by manufacture amounted to \$118 million in 1963, an increase of 12 percent from 1958 and 3 percent from 1962.

The Clay Refractories Industry includes establishments engaged primarily in manufacturing clay firebrick, refractory bonding mortars, and other heat-resisting clay products such as glass-house tank blocks, stoppers, floaters, and rings. Establishments primarily engaged in manufacturing non-clay refractories as well as all graphite refractories whether of carbon bond or ceramic bond, are classified in Industry 3297, Nonclay Refractories. For a detailed list of products of Industry 3255, refer to table 3A, product codes 3255011 to 3255094.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments

Table 1.--GENERAL STATISTICS FOR THE CLAY REFRACTORIES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3255)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	148	109	11,520	65,402	9,484	18,268	49,930	117,653	74,535	191,876	7,811	(X)
1962.....	(NA)	(NA)	12,019	67,053	10,324	18,057	49,324	114,578	73,995	189,274	8,100	5
1961 <sup>2</sup> .....	(NA)	(NA)	12,871	68,471	11,149	19,449	51,495	113,106	78,160	189,738	6,517	4
1960 <sup>2</sup> .....	(NA)	(NA)	13,884	70,988	12,128	21,232	54,481	118,790	75,546	193,084	8,548	4
1959 <sup>2</sup> .....	(NA)	(NA)	13,611	69,867	11,825	21,237	52,958	123,013	72,499	193,169	9,902	2
1958.....	167	117	12,394	59,816	10,110	18,581	44,920	104,895	56,624	163,478	10,804	(X)
1954 <sup>3</sup> .....	177	133	14,463	55,604	12,204	22,783	43,006	88,483	49,956	139,290	5,702	(X)
1947 <sup>3</sup> .....	168	(NA)	17,965	47,048	15,957	31,850	58,663	75,982	35,259	109,260	(NA)	(X)
1939 <sup>3</sup> .....	165	(NA)	13,655	15,404	12,211	(NA)	12,324	28,978	13,213	42,191	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

January 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Clay Refractories Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Clay Refractories Industry amounted to \$192 million. Of this total, \$19 million were products primary to other industries; and \$9 million were receipts for miscellaneous activities. The industry shipments of primary products represented 90 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 93 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in Table 3A, indicates that \$176 million of clay refractories were shipped by all producers of these products. Of this total, \$163 million, or 93 percent, were shipped by plants classified in Industry 3255, Clay Refractories, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 92.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries, and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment



as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary

reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE CLAY REFRACTORIES INDUSTRY BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3255)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
UNITED STATES, TOTAL.....	148	109	11,520	65,402	9,484	18,268	49,930	117,653	74,535	191,876	7,811	12,394	104,898
Northeast.....	47	38	3,075	17,880	2,600	4,889	14,203	31,225	20,104	50,721	2,621	3,493	26,695
Pennsylvania....	41	34	2,885	16,881	2,442	4,584	13,443	29,461	19,331	48,253	2,570	3,297	24,603
North Central.....	57	43	5,612	32,107	4,438	8,689	23,623	58,224	35,879	93,731	2,638	5,811	53,189
Ohio.....	35	28	2,063	10,590	1,784	3,395	8,666	19,248	10,078	28,896	640	2,033	14,697
Missouri.....	13	11	3,331	20,037	2,581	5,050	14,358	36,961	24,998	61,843	1,806	3,187	32,891
South.....	27	20	2,231	11,954	1,954	3,794	9,746	20,960	14,066	35,485	1,771	2,435	18,006
South Atlantic..	13	9	1,300	7,090	1,118	2,168	5,506	12,715	8,062	20,844	1,393	1,262	9,281
East South Central.....	10	8	748	4,165	678	1,316	3,702	6,635	5,336	12,387	323	935	7,119
Kentucky.....	6	5	539	2,995	499	964	2,750	4,655	3,882	8,761	286	625	4,614
West.....	17	8	602	3,462	442	896	2,358	7,244	4,477	11,934	781	655	7,008

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final Census report on this industry.)



Table 3A.--QUANTITY AND VALUE OF CLAY REFRACTORIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Clay Refractories Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3255---	Clay refractories, total.....	.....	(X)	176,280	(X)	158,241
3255011	Fireclay brick and shapes, except superduty.....	1,000 9" equiv.	286,490	44,161	320,034	56,526
3255015	Superduty fireclay brick and shapes.....	..do.....	67,497	19,185	60,163	15,375
3255021	High alumina brick and shapes (50% Al <sub>2</sub> O <sub>3</sub> and over) made substantially of calcined diaspore or bauxite <sup>2</sup> .....	..do.....	32,596	15,373	17,395	7,464
	Insulating fire brick and shapes: <sup>3</sup>					
3255026	1,600°F to 2,000°F (but not including 2,000°F).....	..do.....	5,742	1,217	38,600	9,386
3255027	2,000°F to 2,300°F (but not including 2,300°F).....	..do.....	12,037	2,316		
3255028	2,300°F and higher.....	..do.....	26,523	7,804		
3255031	Ladle brick.....	..do.....	184,961	20,705	167,654	17,024
3255041	Sleeves, nozzles, runnerbrick and tuyeres.....	..do.....	42,457	9,361	34,930	7,448
3255045	Glass-house pots, tank blocks, feeder parts, and upper structural shapes used only for glass tanks <sup>2</sup> .....	Short tons.....	13,516	4,391	14,534	3,598
3255047	Hot top refractories.....	..do.....	61,621	4,429	(NA)	3,975
3255049	Clay kiln furniture, radiant heater elements, potters' supplies, and other miscellaneous shaped refractory items.....	..do.....	(NA)	7,210	(X)	4,808
3255053	Refractory bonding mortars, air setting (wet and dry types) <sup>4</sup> .....	..do.....	53,503	6,515	73,571	6,864
3255057	Refractory bonding mortars, except air setting types <sup>4</sup> .....	..do.....	9,488	956	6,499	678
3255061	Plastic refractories and ramming mixes <sup>2</sup> .....	..do.....	165,663	13,638	104,189	9,050
3255065	Castable refractories (hydraulic setting).....	..do.....	120,971	12,075	91,812	9,077
3255069	Insulating castable refractories (hydraulic setting).....	..do.....	18,310	2,338	19,746	2,380
3255094	Other clay refractory materials sold in lump or ground form <sup>6</sup> .....	..do.....	204,299	4,606	211,856	4,608

(NA) Not available. (X) Not applicable.

<sup>1</sup>"Calcined" as applied to diaspore and bauxite implies heat treatment short of fusion for volume stability prior to use in a refractory product. In the process, volatile materials are driven off and chemical changes take place.

<sup>2</sup>Excludes data for mullite and extra-high alumina refractories. These products are included with mullite and extra-high alumina brick and shapes in Industry 3297, Nonclay Refractories.

<sup>3</sup>The subdivisions are in accordance with the ASTM Classification C155, the respective groups being 16, 20, and 23 and higher.

<sup>4</sup>Includes bonding mortars which contain up to 60% Al<sub>2</sub>O<sub>3</sub>, dry basis. Bonding mortars which contain more than 60% Al<sub>2</sub>O<sub>3</sub> dry basis are included in Industry 3297, Nonclay Refractories.

<sup>5</sup>Includes products referred to as plastic fire brick and the less plastic materials intended for ramming into place after the addition of water (when shipped in dry form). Excludes mixes made of mullite or extra-high alumina. Mixes made of these products are included in Industry 3297, Nonclay Refractories.

<sup>6</sup>Represents shipments for direct use as finished refractory products by establishments classified in "manufacturing" industries, and excludes shipments to refractory producers for processing in the manufacture of brick and other refractories. Includes data for calcined clay, ground brick, and siliceous and other gunning mixes.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR CLAY REFRACTORIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3255	Clay refractories.....1963...	102	134
	.....1958...	94	131

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32B-5



INDUSTRY SERIES

preliminary  
report

## Structural clay products, n. e. c.

SIC Code 3259

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Structural Clay Products, N.E.C., Industry shipped products valued at \$160 million, an increase of 19 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 17 percent from 1958 to a total of 12 thousand employees in 1963. Value added by manufacture amounted to \$108 million in 1963, an increase of 15 percent over 1958.

The Structural Clay Products, N.E.C., Industry includes establishments engaged primarily in the manufacture of clay sewer pipe and structural clay products, not elsewhere classified, such as architectural terra-cotta, roofing tile, conduit, chimney pipe, wall coping, adobe brick, etc. For a detailed list of products of Industry 3259, refer to table 3A.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE STRUCTURAL CLAY PRODUCTS, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3259)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	164	108	12,188	61,977	10,364	21,142	48,711	107,949	53,382	159,592	5,837
1958.....	192	117	13,756	56,454	11,795	22,185	44,582	95,881	38,190	134,928	6,759
1954 <sup>3</sup> .....	217	129	14,659	53,333	12,982	26,225	44,000	83,648	27,645	110,330	5,046
1947 <sup>3</sup> .....	230	127	14,850	36,371	21,114	27,945	31,706	62,233	18,459	76,668	(NA)
1939 <sup>3</sup> .....	192	(NA)	10,942	19,779	15,589	(NA)	15,732	20,941	6,805	51,641	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure

available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Structural Clay Products, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Structural Clay Products, N.E.C., Industry amounted to \$160 million. Of this total, \$15 million were products primary to other industries; and \$8 million were receipts for miscellaneous activities. The industry shipments of primary products represented 90 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 97 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$140 million of structural clay products, n.e.c., were shipped by all producers of these products. Of this total, \$136 million, or 96 percent, were shipped by plants classified in Industry 3259, Structural Clay Products, N.E.C., while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 94.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary



products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports

will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE STRUCTURAL CLAY PRODUCTS, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3259)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	164	108	12,188	61,977	10,364	21,142	48,711	107,949	53,382	159,592	5,837	13,756	95,881
Northeast.....	15	12	1,077	5,492	963	1,951	4,685	8,695	4,018	12,685	308	1,308	8,837
East North Central.....	83	54	5,326	27,542	4,538	8,724	21,525	37,527	21,816	58,609	1,609	6,834	44,058
Ohio.....	46	29	3,294	16,454	2,803	5,168	12,757	21,158	12,866	34,163	837	4,812	29,479
Michigan.....	5	3	311	2,027	263	595	1,472	3,271	1,703	4,828	162	305	3,224
West North Central.....	16	13	1,512	8,058	1,235	2,727	6,117	14,007	6,873	21,541	983	994	7,584
South.....	23	17	2,503	10,581	2,116	4,480	7,710	23,054	10,498	32,539	1,330	2,846	16,916
West.....	27	12	1,770	10,304	1,512	3,260	8,674	24,666	10,177	34,218	1,607	1,774	18,486
California.....	15	11	1,673	9,795	1,432	3,093	8,284	23,935	9,804	33,038	1,433	1,565	17,269

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF STRUCTURAL CLAY PRODUCTS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Structural Clay Products, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963			1958		
		Production for all purposes (Short tons)	Total shipments including interplant transfers		Production for all purposes (Short tons)	Total shipments including interplant transfers	
			Quantity (Short tons)	Value (\$1,000)		Quantity (Short tons)	Value (\$1,000)
3259- --	Structural clay products, n.e.c., total.....	(X)	(X)	140,033	(X)	(X)	132,325
32591 11	Vitrified clay sewer pipe and fittings <sup>1</sup> .....	<sup>r</sup> 1,882,365	<sup>r</sup> 1,800,470	<sup>r</sup> 95,994	1,734,006	1,723,503	86,912
32592 --	Other structural clay products, n.e.c., total.....	(X)	(X)	42,198	(X)	(X)	<sup>r</sup> 41,987
32592 11	Drain tile.....	878,113	836,243	22,111	883,173	874,985	18,563
32592 51	Flue lining.....	182,703	188,248	8,306	214,657	213,735	8,680
32592 98	Other structural clay products (such as terra cotta (architectural), roofing tile, conduit, chimney pipe, tops and thimbles, wall coping, adobe brick etc.).....	(X)	(X)	11,781	(X)	(X)	14,744
32590 00	Structural clay products, n.e.c., not specified by kind.....	(X)	(X)	1,841	(X)	(X)	3,426

<sup>1</sup>Source: Current Industrial Reports Series: M32D(63)-13, "Clay Construction Products," Summary for 1963.  
n.e.c. Not elsewhere classified. (X) Not applicable. Revised.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR STRUCTURAL CLAY PRODUCTS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3259-	Structural clay products, n.e.c.....1963...	102	130
	.....1958...	97	120
32591	Clay sewer pipe and fittings.....1963...	107	128
	.....1958...	98	121
32592	Other structural clay products, n.e.c.....1963...	90	140
	.....1958...	94	117

n.e.c. Not elsewhere classified.

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32C-1

INDUSTRY SERIES

preliminary  
report

## Vitreous plumbing fixtures

SIC Code 3261

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Vitreous Plumbing Fixtures Industry shipped products valued at \$156 million, an increase of 9 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 4 percent from 1958 but an increase of 5 percent from 1962 to a total of 9 thousand employees in 1963. Value added by manufacture amounted to \$102 million in 1963, an increase of 16 percent over 1958 and 15 percent over 1962.

The Vitreous Plumbing Fixtures Industry includes establishments engaged primarily in the manufacture of china plumbing fixtures and china and earthenware fittings and bathroom accessories. For a detailed list of products of Industry 3261, refer to table 3.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE VITREOUS PLUMBING FIXTURES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3261)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	49	43	9,280	56,794	7,891	15,519	46,589	101,504	55,664	155,654	2,442	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	8,812	51,529	7,354	14,309	40,955	88,054	52,758	141,451	1,572	4
1961 <sup>2</sup> .....	(NA)	(NA)	8,945	49,339	7,457	14,133	39,277	85,808	49,829	135,382	3,222	3
1960 <sup>2</sup> .....	(NA)	(NA)	10,308	56,050	8,743	16,988	45,042	100,615	56,993	153,726	3,179	2
1959 <sup>2</sup> .....	(NA)	(NA)	10,919	58,820	9,376	18,556	48,219	112,780	64,909	175,530	1,831	1
1958.....	49	43	9,677	49,568	8,111	15,638	39,580	87,293	52,793	142,683	1,613	(X)
1954 <sup>3</sup> .....	37	33	9,200	40,541	7,785	15,676	32,987	75,539	50,242	128,229	1,061	(X)
1947 <sup>3</sup> .....	33	(NA)	7,831	24,615	6,996	14,591	21,187	45,677	22,416	68,093	(NA)	(X)
1939 <sup>3</sup> .....	25	(NA)	5,146	7,669	4,534	(NA)	6,316	14,997	6,982	21,979	(NA)	(X)

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Vitreous Plumbing Fixtures Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Vitreous Plumbing Fixtures Industry amounted to \$156 million. Of this total, \$5 million were products primary to other industries; and \$12 million were receipts for miscellaneous activities. The industry shipments of primary products represented 97 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 97 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$143 million of vitreous and semivitreous plumbing fixtures and accessories were shipped by all producers of these products. Of this total, \$139 million, or 97 percent, were shipped by plants classified in Industry 3261, Vitreous Plumbing Fixtures while the remainder was shipped by plants classified in other industries. The percentage in 1958 was also 97.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965.

through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE VITREOUS PLUMBING FIXTURES INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3261)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	49	43	9,280	56,794	7,891	15,519	46,589	101,504	55,664	155,654	2,442	9,677	87,293
Northeast.....	19	14	3,375	20,612	2,855	5,540	17,227	37,595	19,499	56,848	450	3,645	31,343
North Central.....	15	15	3,804	22,132	3,273	6,486	18,112	38,161	22,227	59,491	967	3,693	32,595
South.....	7	7	976	5,834	820	1,642	4,607	10,931	6,398	17,274	740	1,181	9,591
West.....	8	7	1,125	8,216	943	1,851	6,643	14,817	7,540	22,041	285	1,158	13,764
California.....	8	7	1,125	8,216	943	1,851	6,643	14,817	7,540	22,041	285	1,158	13,764

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—QUANTITY AND VALUE OF VITREOUS AND SEMIVITREOUS PLUMBING FIXTURES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Vitreous Plumbing Fixtures Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963			1958		
		Production for all purposes (number)	Total shipments including interplant transfers		Production for all purposes (number)	Total shipments including interplant transfers	
			Quantity (number)	Value (\$1,000)		Quantity (number)	Value (\$1,000)
3261- --	Vitreous and semivitreous plumbing fixtures and accessories, total.....	(X)	(X)	143,335	(X)	(X)	130,517
32610 11	Plumbing fixtures:						
	Total as reported in the census of manufactures.....	(X)	(X)	136,996	(X)	(X)	<sup>r</sup> 124,463
	Total as reported on the census quarterly form M34E <sup>1</sup> .....	(X)	(X)	<sup>2</sup> 142,159	(X)	(X)	<sup>2</sup> 124,522
32610 14	Drinking fountains.....	50,546	50,978	(X)	(X)	68,978	(X)
32610 16	Lavatories.....	2,598,651	2,523,516	(X)	(X)	<sup>r</sup> 2,179,706	(X)
	Water closet bowls:						
32610 18	Siphon jet.....	1,132,912	1,022,291	(X)	(X)	<sup>r</sup> 484,436	(X)
32610 20	Washdown.....	1,687,463	1,662,971	(X)	(X)	<sup>r</sup> 1,813,522	(X)
32610 22	Reverse trap.....	2,812,900	2,734,725	(X)	(X)	<sup>r</sup> 1,938,405	(X)
32610 24	Flush tanks.....	4,787,552	4,600,563	(X)	(X)	<sup>r</sup> 3,639,123	(X)
32610 26	Urinals.....	196,037	191,926	(X)	(X)	157,186	(X)
32610 51	China and earthenware plumbing fixture accessories and fittings (including towel racks, soap cups, etc.).....	(X)	(X)	5,700	(X)	(X)	<sup>r</sup> 5,290
32610 00	Vitreous and semivitreous plumbing fixtures and accessories, not specified by kind.....	(X)	(X)	639	(X)	(X)	764

<sup>r</sup>Revised.

(X) Not applicable.

<sup>1</sup>The source of the quantity data for codes 3261014-3261026 is Current Industrial Reports Series M34E(63)-5, Plumbing Fixtures. No separate quantity data for vitreous and semivitreous sinks, laundry trays, sink and laundry tray combinations and other plumbing fixtures are available since these items were combined with similar items made of other materials in the M34E report.<sup>2</sup>Represents vitreous china only. In addition, shipments valued at \$2,398,000 in 1963 and \$2,236,000 in 1958 were reported for plumbing fixtures made of earthenware, concrete, and composition.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32C-2



INDUSTRY SERIES

preliminary  
report

## Vitreous china food utensils

SIC Code 3262

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Vitreous China Food Utensils Industry shipped products valued at \$51 million, an increase of 6 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 14 percent from 1958 and 5 percent from 1962 to a total of 6 thousand employees in 1963. Value added by manufacture amounted to \$43 million in 1963, an increase of 8 percent over 1958 but a 2 percent decrease from 1962.

The Vitreous China Food Utensils Industry includes establishments engaged primarily in the manufacture of vitreous china and porcelain table and kitchen articles for use in households and in hotels, restaurants, and other commercial institutions for preparing, serving, or storing food and drink. Establishments primarily engaged in manufacturing fine (semivitreous) type of earthenware table and kitchen articles are classified in Industry 3263. For a detailed list of products of Industry 3262, refer to table 3.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957

Table 1.—GENERAL STATISTICS FOR THE VITREOUS CHINA FOOD UTENSILS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3262)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	31	21	6,314	29,552	5,280	9,817	21,771	42,504	8,927	50,954	725	(X)
1962.....	(NA)	(NA)	6,691	29,631	5,515	10,611	21,572	43,785	9,154	52,205	1,069	4
1961 <sup>2</sup> .....	(NA)	(NA)	6,512	27,905	5,404	10,088	20,174	40,236	8,560	49,153	631	2
1960 <sup>2</sup> .....	(NA)	(NA)	7,052	30,034	5,876	10,950	21,645	42,588	9,015	51,468	782	2
1959 <sup>2</sup> .....	(NA)	(NA)	7,219	30,367	6,103	11,633	22,633	42,735	8,933	51,792	1,059	1
1958.....	28	21	7,248	28,573	6,002	10,946	20,508	39,285	8,082	47,695	1,906	(X)
1954 <sup>3</sup> .....	34	29	8,704	28,161	7,693	14,061	22,622	36,413	8,675	45,063	1,333	(X)
1947 <sup>3</sup> .....	27	25	11,000	26,849	10,326	20,228	23,530	35,228	7,968	43,196	2,692	(X)
1939 <sup>3</sup> .....	17	(NA)	4,798	5,716	4,350	(NA)	4,639	7,653	1,707	9,360	(NA)	(X)

(NA) Not available. (X) Not applicable. <sup>1</sup> Revised.

<sup>1</sup> Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup> The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup> Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Vitreous China Food Utensils Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Vitreous China Food Utensil Industry amounted to \$51 million.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$47 million of vitreous china food utensils were shipped by all producers of these products.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in



## 1963 CENSUS OF MANUFACTURES

3

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted

every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE VITREOUS CHINA FOOD UTENSILS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3262)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	31	21	6,314	29,552	5,280	9,817	21,771	42,504	8,927	50,954	725	<sup>r</sup> 7,248	<sup>r</sup> 39,285
Middle Atlantic....	11	10	4,568	22,430	3,714	7,023	15,996	32,892	6,822	39,322	620	4,745	28,115
North Central.....	8	5	1,137	4,699	1,026	1,771	3,750	6,569	1,062	7,613	(D)	1,585	6,703
South and West....	12	6	609	2,423	540	1,023	2,025	3,043	1,043	4,019	(D)	918	4,467

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies. <sup>r</sup>Revised.

Table 3.—QUANTITY AND VALUE OF VITREOUS CHINA FOOD UTENSILS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Vitreous China Food Utensils Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 dozen pieces)	Value (\$1,000)	Quantity (1,000 dozen pieces)	Value (\$1,000)
3262- --	Vitreous china and porcelain table and kitchen articles, total.....	(X)	46,859	(X)	<sup>r</sup> 46,908
32620 18	Tableware (for serving food and drink):				
32620 14	Hotel or commercial.....	6,682	28,799	<sup>r</sup> 6,151	<sup>r</sup> 28,369
32620 52	Household.....				
32620 00	Kitchenware, household, and commercial (for cooking, preparing and storing food or drink).....	1,130	17,712	<sup>r</sup> 1,233	<sup>r</sup> 18,344
	Vitreous china and porcelain table and kitchen articles, not specified by kind.....	(X)	348	(X)	195

(X) Not applicable. <sup>r</sup>Revised.



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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32C-3



INDUSTRY SERIES

preliminary  
report

## Earthenware food utensils

SIC Code 3263

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Earthenware Food Utensils Industry shipped products valued at \$59 million, an increase of 18 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 22 percent from 1958 to a total of 7,3 thousand employees in 1963. Value added by manufacture amounted to \$41 million in 1963, an increase of 14 percent over 1958.

The Earthenware Food Utensils Industry includes establishments engaged primarily in the manufacture

of fine (semivitreous) types of earthenware table and kitchen articles for preparing, serving, or storing food and drink. Establishments primarily engaged in manufacturing vitreous china table and kitchen articles are classified in Industry 3262, Vitreous China Food Utensils. For a detailed list of products of Industry 3263, refer to table 3A.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE EARTHENWARE FOOD UTENSILS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3263)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	21	18	7,349	31,614	6,595	12,319	26,400	41,045	17,881	59,046	797
1958.....	<sup>r</sup> 30	<sup>r</sup> 24	<sup>r</sup> 8,718	<sup>r</sup> 28,749	<sup>r</sup> 7,969	<sup>r</sup> 12,645	<sup>r</sup> 24,756	<sup>r</sup> 36,311	<sup>r</sup> 13,221	<sup>r</sup> 50,230	<sup>r</sup> 586
1954 <sup>3</sup> .....	47	36	13,335	38,742	12,333	19,467	32,468	48,655	17,220	67,029	528
1947 <sup>4</sup> .....	76	42	16,747	42,091	15,742	29,733	37,175	54,837	17,217	72,054	4,784
1939 <sup>5</sup> .....	31	(NA)	12,773	15,600	11,728	(NA)	13,150	19,644	8,157	27,801	(NA)

(NA) Not available. <sup>r</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Earthenware Food Utensils Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Earthenware Food Utensils Industry amounted to \$59 million. Of this total, \$5 million were products primary to other industries; and \$2 million were receipts for miscellaneous activities. The industry shipments of primary products represented 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 98 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$58 million of earthenware food utensils were shipped by all producers of these products. Of this total, \$53 million, or 91 percent, were shipped by plants classified in Industry 3263, Earthenware Food Utensils while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 91.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.



PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE EARTHENWARE FOOD UTENSILS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958  
(SIC code 3263)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)	All employ- ees, number	Value added by manufac- ture (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	21	18	7,349	31,614	6,595	12,319	26,400	41,045	17,881	59,046	797	8,718	36,311
Northeast and North Central....	12	11	4,646	19,832	4,169	7,915	17,018	26,488	11,688	38,220	658	4,717	22,350
Ohio.....	7	6	2,707	11,232	2,470	4,560	9,732	14,188	7,591	21,900	445	2,820	11,871
South and West....	9	7	2,703	11,782	2,426	4,404	9,382	14,557	6,193	20,826	139	4,001	13,961

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>r</sup>Revised.

## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF EARTHENWARE FOOD UTENSILS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Earthenware Food Utensils Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 dozen pieces)	Value (\$1,000)	Quantity (1,000 dozen pieces)	Value (\$1,000)
3263- --	Earthenware (semivitreous) table and kitchen articles, total.....	(X)	58,231	(X)	<sup>r</sup> 53,456
32630 12	Tableware, household and commercial (for serving food and drink).....	28,160	56,671	<sup>r</sup> 21,292	<sup>r</sup> 52,045
32630 52	Kitchenware, household and commercial (for cooking, preparing and storing food and drink).....	250	1,560	<sup>r</sup> 256	<sup>r</sup> 1,080
32630 00	Earthenware (semivitreous) table and kitchen articles, not specified by kind.....	-	-	(X)	<sup>r</sup> 331

- Represents zero. (X) Not applicable. <sup>r</sup> Revised.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR FINE EARTHENWARE (WHITEWARE) TABLE AND KITCHEN ARTICLES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3263-	Fine earthenware (whiteware) table and kitchen articles.....1963...	76	106
	.....1958...	58	128

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# 1963 CENSUS OF MANUFACTURES



MC63(P)-32C-4

INDUSTRY SERIES

preliminary  
report

## Porcelain electrical supplies

SIC Code 3264

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Porcelain Electrical Supplies Industry shipped products valued at \$131 million, an increase of 35 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 11 percent from 1958 to a total of 10.1 thousand employees in 1963; approximately the same as the 1962 average employment. Value added by manufacture amounted to \$90

million in 1963; an increase of 36 percent from 1958 and 7 percent from 1962.

The Porcelain Electrical Supplies Industry includes establishments engaged primarily in the manufacture of porcelain electrical insulators, molded porcelain parts for electrical devices, steatite electrical products and other electrical supplies from clay and other ceramic materials. For a detailed list of products of Industry 3264, refer to table 3.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.—GENERAL STATISTICS FOR THE PORCELAIN ELECTRICAL SUPPLIES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3264)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	78	48	10,138	57,242	7,997	15,859	40,971	89,791	41,737	131,465	4,141	(X)
1962.....	(NA)	(NA)	10,137	53,782	8,032	15,625	38,809	83,898	40,474	122,765	4,696	2
1961.....	(NA)	(NA)	9,656	50,563	7,675	15,070	36,447	77,384	37,550	115,264	5,159	2
1960.....	(NA)	(NA)	9,376	47,211	7,641	15,237	35,440	75,931	35,899	111,384	4,130	2
1959.....	(NA)	(NA)	9,605	46,502	7,994	16,096	35,093	76,695	34,792	109,864	3,508	1
1958.....	59	44	9,107	42,362	7,489	14,741	31,342	66,074	31,014	97,475	4,390	(X)
1954.....	45	37	9,550	37,679	7,990	15,847	28,629	54,312	27,798	83,169	5,357	(X)
1947.....	50	40	11,547	30,463	10,447	21,553	25,454	52,832	18,652	71,484	2,904	(X)
1939.....	42	(NA)	6,897	8,767	6,018	(NA)	6,530	13,673	7,144	20,817	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

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is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of

products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Porcelain Electrical Supplies Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Porcelain Electrical Supplies Industry amounted to \$131 million. Of this total, \$13 million were products primary to other industries; and \$5 million were receipts for miscellaneous activities. The industry shipments of primary products represent 89 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 92 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$120 million of porcelain electrical supplies were shipped by all producers of these products. Of this total, \$113 million, or 94 percent, were shipped by plants classified in Industry 3264, Porcelain Electrical Supplies, while the remainder was shipped by plants classified in other industries. The comparable percentage for 1958 was 93.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the

coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE PORCELAIN ELECTRICAL SUPPLIES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3264)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)	All employ- ees, number	Value added by manufac- ture (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	78	48	10,138	57,242	7,997	15,859	40,971	89,791	41,737	131,465	4,141	9,107	66,074
Northeast.....	37	24	3,753	21,041	3,028	6,149	15,144	33,463	18,011	51,058	1,766	3,396	24,190
New York.....	7	4	1,275	8,118	1,008	2,014	5,861	14,603	9,791	24,056	794	1,160	11,039
Pennsylvania....	8	5	1,265	6,972	1,037	2,134	5,063	11,009	5,119	15,817	( <sup>1</sup> )	1,042	6,524
East North Central	14	12	3,725	21,430	2,804	5,262	15,297	32,412	13,234	45,889	737	3,208	23,944
Ohio.....	8	7	1,567	9,210	1,230	2,360	6,793	18,562	8,722	27,480	( <sup>1</sup> )	1,692	14,929
South.....	12	10	2,540	14,124	2,068	4,254	10,059	22,726	9,970	32,782	1,513	2,417	17,573
West.....	15	2	120	647	97	194	471	1,190	522	1,736	( <sup>1</sup> )	86	367

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.--VALUE OF PORCELAIN ELECTRICAL SUPPLIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Porcelain Electrical Supplies Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3264- --	Porcelain, steatite, and other ceramic electrical products, total.....	119,522	91,097
	Porcelain electrical products (excluding steatite, alumina, ferrite, titanate, etc.):		
	High voltage porcelain products (wet process porcelain) shipped with integral hardware parts:		
32640 12	Low-voltage one-piece pintype insulators.....	3,068	49,754
32640 13	High-voltage pintype insulators.....	6,042	
	Suspension type insulators:		
32640 14	7 1/2-inch discs and smaller.....	6,307	
32640 15	Larger than 7 1/2-inch discs.....	11,195	
32640 16	Switch and bus insulators (Include cap and pin, and post types).....	11,115	
32640 17	All other including guy strain insulators and spools.....	11,834	
32640 18	High voltage porcelain products (wet process porcelain), shipped without integral hardware parts.....	8,972	
32640 21	All standard dry process electrical porcelain, including cleats, knobs, tubes, outlet and switch box covers, etc.....	1,706	<sup>r</sup> 2,876
32640 31	All special dry process electrical porcelain, including porcelain parts for wiring devices, fuses, circuit breakers, radio receiving sets, spark plugs, etc., and electrical refractory porcelain.....	25,645	<sup>r</sup> 7,965
32640 41	Steatite electrical products.....	15,635	8,603
32640 98	Other ceramic electrical products, including alumina, ferrite (except for electronic applications), titanate, etc., electrical products.....	15,598	19,120
32640 00	Porcelain electrical supplies, not specified by kind.....	2,405	2,779

<sup>r</sup>Revised.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32C-5



INDUSTRY SERIES

preliminary  
report

## Pottery products, n.e.c.

SIC Code 3269

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Pottery Products, N.E.C., Industry shipped products valued at \$95 million, an increase of 20 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry was 9 thousand in 1963; approximately the same as 1958. Value added by manufacture amounted to \$62 million in 1963, an increase of 15 percent over 1958.

The Pottery Products, N.E.C., Industry includes establishments engaged primarily in firing and decorating white china and earthenware for the trade and manufacturing art and ornamental pottery, industrial and laboratory pottery, stoneware and coarse earthenware table and kitchen articles, unglazed red earthenware florists' articles, and other pottery products, n.e.c. For a detailed list of products of Industry 3269, refer to table 3.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.--GENERAL STATISTICS FOR THE POTTERY PRODUCTS, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3269)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	454	97	9,044	37,498	7,550	14,882	28,272	61,501	33,915	95,067	3,046
1958.....	584	108	9,250	31,218	7,745	15,155	23,778	54,046	25,202	78,800	3,275
1954 <sup>3</sup> .....	704	115	10,144	28,438	8,958	17,177	22,569	(NA)	17,302	60,456	2,352
1947 <sup>3</sup> .....	556	126	10,781	22,944	9,865	20,959	19,331	36,218	12,086	48,304	2,710
1939 <sup>3</sup> .....	175	(NA)	7,481	9,165	6,475	(NA)	6,824	13,990	4,937	18,927	(NA)

n.e.c. Not elsewhere classified. (NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954, 1958 and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of

products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Pottery Products, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Pottery Products, N.E.C., Industry amounted to \$95 million. Of this total, \$10 million were products primary to other industries; and \$12 million were receipts for miscellaneous activities. The industry shipments of primary products represent 88 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 92 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$82 million of Pottery Products, N.E.C., were shipped by all producers of these products. Of this total, \$73 million, or 89 percent, were shipped by plants classified in Industry 3269, Pottery Products, N.E.C., while the remainder was shipped by plants classified in other industries. The comparable percentage for 1958 was 91.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports



will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE POTTERY PRODUCTS, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3269)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	454	97	9,044	37,498	7,550	14,882	28,272	61,501	33,915	95,067	3,046	9,250	54,046
Northeast.....	99	22	1,545	6,377	1,280	2,480	4,686	11,981	5,351	17,297	641	1,536	10,556
Middle Atlantic.....	73	20	1,371	5,741	1,130	2,208	4,190	10,660	4,942	15,589	599	1,357	9,489
New Jersey....	19	7	398	1,822	318	649	1,275	3,107	929	4,046	(1)	373	2,220
Pennsylvania..	19	8	726	2,886	615	1,195	2,187	5,522	3,237	8,753	(1)	578	4,481
North Central.....	103	38	3,431	14,716	2,850	5,675	10,691	23,865	16,553	40,073	812	3,706	21,542
Illinois.....	20	9	1,065	4,452	924	2,005	3,455	6,845	4,170	11,116	(1)	1,084	6,583
South.....	89	14	1,069	3,265	926	1,821	2,680	4,652	2,784	7,709	(1)	1,148	5,189
South Atlantic..	42	3	316	949	270	504	747	1,398	1,181	2,869	(1)	397	1,806
East South Central.....	26	7	518	1,618	453	937	1,368	2,247	1,214	3,443	(1)	444	1,936
West.....	163	23	2,999	13,140	2,494	4,906	10,215	21,003	9,227	29,988	1,210	2,860	16,759

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3.--QUANTITY AND VALUE OF POTTERY PRODUCTS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Pottery Products, N.E.C., industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value <sup>r</sup> (\$1,000)
3269- --	Pottery products, n.e.c., total.....	.....	(X)	81,516	(X)	74,981
	Art, decorative and novelty pottery ware (including vases, lamp bases, figures, plaques, book ends, garden pottery, ash trays):					
32690 11	China and porcelain.....	.....	(X)	15,518	(X)	12,342
32690 31	Earthenware and stoneware.....	.....	(X)	21,215	(X)	18,429
32690 40	Stoneware table and kitchen articles, household and commercial (for serving, cooking, preparing, and storing food and drink).....	1,000 doz. pieces	872	3,340	(NA)	3,126
	Other pottery products, n.e.c.:					
32690 61	Chemical, technical and industrial pottery ware (including chemical stoneware and porcelain, pyrometric tubes, etc.).....	.....	(X)	18,516	(X)	9,309
32690 71	Red unglazed earthenware (flower pots, etc.).....	.....	(X)	5,840	(X)	6,708
32690 81	All other pottery products (including pyrometric cones, veritas rings, etc.).....	.....	(X)	2,672	(X)	2,531
32690 91	China decorating for the trade.....	1,000 doz. pieces	(S)	6,511	(NA)	5,487
32690 00	Pottery products, n.e.c., not specified by kind.....	.....	(X)	7,904	(X)	17,049

n.e.c. Not elsewhere classified. (NA) Not available. (S) Does not meet publication standards. (X) Not applicable. <sup>r</sup>Revised.

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# 1963 CENSUS OF MANUFACTURES



MC63(P)-32D-1

INDUSTRY SERIES

preliminary  
report

## Concrete block and brick

SIC Code 3271

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Concrete Block and Brick Industry shipped products valued at \$504 million, an increase of 21 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 4 percent over 1958 to a total of 23.7 thousand employees in 1963. Value added by manufacture amounted to \$245 million in 1963, an increase of 29 percent over 1958.

The Concrete Block and Brick Industry includes establishments engaged primarily in the manufacture

of concrete building blocks and brick from a combination of cement and aggregate. Contractors engaged in concrete construction work are classified in the construction industries and building materials dealers primarily engaged in mixing and delivering ready-mixed concrete in Industry 3273. For a detailed list of products of Industry 3271, refer to table 3A.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included.

Table 1.—GENERAL STATISTICS FOR THE CONCRETE BLOCK AND BRICK INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3271)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	1,838	365	23,734	119,460	16,627	36,061	72,325	245,262	262,042	504,345	31,109
1958 <sup>3</sup> .....	1,796	336	22,766	98,103	16,404	32,933	61,292	190,355	224,333	413,670	22,790

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 standard industrial classification so that data for the industry prior to 1958 are not directly comparable. Details of this revision are described in the 1958 Census of Manufactures Volume II, Industry Statistics.

April 1965

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March.

VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Concrete Block and Brick Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Concrete Block and Brick Industry amounted to \$504 million. Of this total,

\$45 million were products primary to other industries; and \$75 million were receipts for miscellaneous activities. The industry shipments of primary products represent 90 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 90 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$461 million of concrete block and brick were shipped by all producers of these products. Of this total, \$385 million, or 83 percent, were shipped by plants classified in Industry 3271, Concrete Block and Brick, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 83.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing



industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE CONCRETE BLOCK AND BRICK INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3271)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,838	365	23,734	119,460	16,627	36,061	72,325	245,262	262,042	504,345	31,109	22,766	190,355
New England.....	92	14	1,179	7,405	827	1,859	4,316	13,398	10,930	24,230	1,821	1,058	9,516
Massachusetts..	39	4	429	2,586	310	691	1,631	5,625	4,480	10,067	1,083	492	4,914
Middle Atlantic..	304	69	4,459	24,056	3,199	6,986	15,404	45,672	57,139	102,366	7,619	4,471	39,342
New York.....	90	23	1,465	9,697	978	2,208	5,757	17,593	19,228	36,553	3,880	1,522	14,599
New Jersey.....	67	16	1,019	5,382	750	1,646	3,577	11,809	15,304	26,992	1,456	1,045	10,184
Pennsylvania....	147	30	1,975	8,977	1,471	3,132	6,070	16,270	22,607	38,821	2,283	1,904	14,559
East North													
Central.....	456	68	5,198	28,625	3,532	7,557	16,822	59,369	63,780	122,364	7,420	5,286	46,012
Ohio.....	110	18	1,475	7,839	979	2,097	4,585	15,509	17,978	33,506	2,851	1,575	13,164
Indiana.....	67	8	796	4,323	501	1,104	2,273	9,522	9,724	19,099	946	714	5,068
Illinois.....	79	12	851	4,766	606	1,227	3,036	9,830	8,786	18,385	1,008	780	7,500
Michigan.....	126	19	1,392	7,735	965	2,091	4,493	15,927	18,767	34,326	1,522	1,358	11,714
Wisconsin.....	74	11	684	3,962	481	1,038	2,435	8,581	8,525	17,048	1,093	859	8,566
West North													
Central.....	191	26	1,865	9,717	1,279	2,836	5,719	18,836	19,167	37,762	2,009	1,876	16,410
Minnesota.....	66	7	521	3,046	375	830	1,899	5,566	5,140	10,681	642	526	4,593
Iowa.....	26	6	332	1,774	225	502	1,023	4,042	3,512	7,494	(1)	404	3,164
Missouri.....	42	5	360	1,673	270	531	1,093	3,129	4,314	7,381	(1)	413	3,370
Nebraska.....	13	3	257	1,442	152	388	721	2,483	2,302	4,712	(1)	187	1,929
South Atlantic...	301	94	4,771	19,632	3,365	7,488	11,514	42,630	50,075	92,639	5,570	5,023	37,142
Virginia.....	42	18	761	3,172	560	1,232	1,867	7,272	7,455	14,855	594	674	4,255
West Virginia..	27	2	286	1,092	212	464	710	1,824	2,643	4,397	(1)	338	1,838
North Carolina..	58	19	907	3,330	680	1,469	2,100	7,526	9,730	17,225	794	856	5,105
South Carolina..	25	9	415	1,519	297	661	860	2,740	3,119	5,848	(1)	250	1,248
Georgia.....	43	14	725	2,760	515	1,138	1,702	6,241	8,078	14,284	821	516	3,528
East South													
Central.....	149	26	1,925	7,080	1,418	3,007	4,255	15,275	16,296	31,307	1,681	1,366	8,971
Tennessee.....	57	11	831	3,062	580	1,232	1,695	7,042	6,771	13,679	812	566	3,566
Alabama.....	29	8	427	1,699	340	732	1,120	3,417	3,747	7,093	(1)	375	2,618
West South													
Central.....	110	20	1,261	5,122	921	2,099	3,278	12,180	12,792	24,846	1,094	1,203	9,126
Texas.....	57	14	753	3,120	525	1,190	1,833	7,254	6,883	13,977	524	745	5,350
Mountain.....	91	19	1,372	6,955	924	1,857	4,407	15,996	12,622	28,008	1,748	1,193	10,841
New Mexico.....	15	4	260	1,156	181	379	719	1,969	2,592	4,456	(1)	259	2,025
Arizona.....	16	3	286	1,630	187	371	1,047	6,091	2,832	8,659	775	240	2,857
Pacific.....	144	29	1,704	10,868	1,162	2,372	6,610	21,906	19,241	40,823	2,147	1,290	12,995
California.....	101	20	1,191	7,722	816	1,676	4,725	16,519	13,189	29,456	1,701	958	10,302

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3A.—QUANTITY AND VALUE OF CONCRETE BLOCK AND BRICK SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Concrete Block and Brick Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3271- --	Concrete block and brick, total.....	.....	(X)	461,034	(X)	379,068
32710 11	Block: Light-weight aggregate(cinder, expanded slag, pumice, expanded clays, shales, slates, etc.).....	1,000 blocks (8"x8"x16" equivalent).. ...do.....	1,214,647 850,433	252,816 165,296	1,011,157 751,096	207,380 141,720
32710 15	Heavy-weight aggregate.....	.....	.....	.....	.....	.....
32710 51	Brick.....	1,000 bricks..	428,065	13,083	357,253	11,425
32710 00	Concrete block and brick, not specified by kind.....	.....	(X)	29,839	(X)	18,543

(X) Not applicable.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR CONCRETE BLOCK AND BRICK SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3271-	Concrete block and brick.....1963... .....1958...	121 101	111 109

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
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OFFICIAL BUSINESS

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32D-2



INDUSTRY SERIES

preliminary  
report

## Other concrete products

SIC Code 3272

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Other Concrete Products Industry shipped products valued at \$928 million, an increase of 29 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 13 percent over 1958 and 6 percent over 1962 to a total of 52 thousand employees in 1963. Value added by manufacture amounted to \$542 million in 1963, an increase of 39 percent over 1958 and 9 percent over 1962.

The Other Concrete Products Industry includes establishments engaged primarily in the manufacture of concrete products, except block and brick, from a combination of cement and aggregate. Contractors engaged in concrete construction work are classified in the construction industries, and building materials dealers primarily engaged in mixing and delivering ready-mixed concrete in Industry 3273. For a detailed list of products of Industry 3272, refer to table 3.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957

Table 1.—GENERAL STATISTICS FOR THE OTHER CONCRETE PRODUCTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3272)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	3,439	717	52,453	267,435	41,224	87,649	190,900	541,913	387,580	927,692	43,693	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	49,322	241,822	39,331	85,582	173,417	499,465	373,454	871,625	36,824	5
1961 <sup>2</sup> .....	(NA)	(NA)	47,939	222,905	38,069	83,145	156,310	470,871	354,891	822,442	(36,258)	4
1960 <sup>2</sup> .....	(NA)	(NA)	48,637	222,384	39,023	(85,637)	157,486	460,181	366,627	822,538	32,308	3
1959 <sup>2</sup> .....	(NA)	(NA)	47,163	211,791	38,021	79,284	150,895	438,251	358,595	795,168	38,884	2
1958 <sup>2</sup> .....	3,455	616	46,283	200,231	36,267	73,567	141,575	391,366	332,224	720,111	44,310	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that data for the industry prior to 1958 are not directly comparable. Details of this revision are described in the 1958 census of Manufactures Volume II, Industry Statistics.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March.

### VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Other Concrete Products Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Other Concrete Products Industry amounted to \$928 million. Of this total, \$57 million were products primary to other industries; and \$69 million were receipts for miscellaneous activities. The industry shipments of primary products represent 93 percent of the total

manufactured product shipments, primary and secondary. The 1958 ratio was 94 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$862 million of other concrete products, were shipped by all producers of these products. Of this total, \$801 million, or 93 percent, were shipped by plants classified in Industry 3272, Other Concrete Products, while the remainder was shipped by plants classified in other industries. The comparable ratio for 1958 was 94 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

## 1963 CENSUS OF MANUFACTURES

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Table 2.—GENERAL STATISTICS FOR THE OTHER CONCRETE PRODUCTS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3272)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	3,439	717	52,453	267,435	41,225	87,639	190,900	541,913	387,580	927,692	43,683	46,283	391,366
New England.....	160	25	2,131	11,697	1,645	3,633	8,301	24,237	15,512	39,196	2,315	1,627	14,697
Massachusetts.....	67	13	1,079	6,240	851	1,916	4,567	12,967	8,311	20,917	917	690	6,025
Connecticut.....	47	6	619	3,404	471	1,004	2,286	7,161	4,526	11,611	991	520	4,362
Middle Atlantic...	444	106	6,585	36,752	5,091	10,816	25,819	70,782	45,239	116,281	4,855	6,769	59,521
New York.....	173	41	2,156	13,243	1,681	3,597	9,713	26,014	15,260	41,798	1,594	2,404	20,197
New Jersey.....	75	29	2,016	11,914	1,485	3,218	7,650	24,448	15,078	38,819	1,512	2,024	20,083
Pennsylvania.....	196	36	2,413	11,595	1,925	4,001	8,456	20,320	14,901	35,664	1,749	2,341	19,241
East North Central	802	129	9,693	56,228	7,567	16,191	39,834	116,456	75,128	192,031	8,174	9,396	91,081
Ohio.....	201	34	2,756	15,785	2,077	4,429	10,526	31,784	17,879	49,429	2,110	2,821	25,035
Indiana.....	151	15	1,199	5,844	957	1,963	4,155	11,174	8,601	20,110	1,150	1,585	12,495
Illinois.....	159	36	2,539	15,599	1,985	4,265	11,304	31,112	20,357	51,264	1,710	2,344	25,388
Michigan.....	183	24	1,917	10,923	1,513	3,182	7,873	27,974	17,425	46,115	2,136	1,781	18,904
Wisconsin.....	108	20	1,282	8,077	1,035	2,352	5,976	14,412	10,866	25,113	1,068	865	9,259
West North Central	353	59	4,571	22,524	3,623	7,887	16,314	44,758	31,500	76,378	3,621	4,181	35,045
Minnesota.....	103	20	1,472	7,845	1,167	2,568	5,767	15,749	10,796	26,404	1,281	1,428	13,529
Iowa.....	90	14	1,010	5,276	792	1,811	3,644	10,543	7,434	17,849	816	763	6,374
Missouri.....	86	13	795	3,739	616	1,325	2,789	7,277	4,359	11,844	558	899	6,652
Nebraska.....	18	3	523	1,799	463	937	1,525	3,287	2,588	6,043	(1)	398	1,956
South Atlantic.....	621	151	10,990	45,920	8,768	18,689	32,234	98,012	81,610	179,955	9,011	9,573	67,330
Maryland.....	54	18	1,323	6,708	1,085	2,307	4,793	16,618	11,662	28,454	1,367	933	9,532
Virginia.....	70	23	2,087	9,458	1,733	3,840	6,960	20,025	18,296	38,134	1,741	1,288	10,390
North Carolina...	76	24	1,416	5,651	1,128	2,403	3,662	9,986	9,010	18,762	1,575	1,034	6,611
South Carolina...	44	10	609	2,302	498	1,040	1,693	5,945	5,033	10,928	(1)	626	5,254
Georgia.....	95	17	1,317	4,975	1,034	2,151	3,242	11,653	8,858	20,486	1,403	1,106	7,843
Florida.....	256	50	3,829	15,117	2,965	6,292	10,678	30,319	26,364	56,749	2,187	4,167	24,934
East South Central	207	48	3,017	11,341	2,458	4,960	7,747	27,278	20,877	48,146	1,841	2,801	23,084
Tennessee.....	58	16	1,137	4,630	923	1,852	2,897	9,820	8,458	18,554	772	1,043	8,162
Alabama.....	79	13	920	3,127	733	1,478	2,142	7,109	5,248	12,220	519	1,015	7,696
West South Central	305	81	5,958	24,984	4,687	10,322	17,734	52,621	43,547	96,015	4,950	4,388	32,638
Arkansas.....	22	6	293	1,007	263	567	850	1,998	1,993	3,968	(D)	223	1,587
Louisiana.....	67	9	966	4,226	826	1,889	3,383	9,474	7,723	17,150	1,080	872	6,608
Oklahoma.....	30	6	422	2,112	320	740	1,428	4,476	2,964	7,448	(D)	312	2,484
Texas.....	186	60	4,277	17,639	3,278	7,126	12,073	36,673	30,867	67,449	2,565	2,981	21,959
Mountain.....	140	32	2,390	13,735	1,936	4,023	10,145	25,204	18,500	42,621	1,994	1,721	13,343
Colorado.....	44	8	686	3,806	541	1,131	2,756	7,465	4,390	11,390	741	512	3,029
Arizona.....	31	6	517	3,046	448	901	2,460	5,309	4,491	8,908	(1)	294	2,513
Utah.....	20	7	544	3,191	454	962	2,328	5,210	3,622	9,009	(1)	468	4,123
Pacific.....	407	86	7,118	44,254	5,450	11,118	32,772	82,565	55,667	137,069	6,922	5,827	54,627
Washington.....	83	15	1,360	8,485	1,098	2,172	6,561	15,036	10,127	24,459	1,875	1,011	8,399
Oregon.....	46	5	570	3,301	428	881	2,362	7,611	4,449	12,245	(1)	509	5,780
California.....	271	62	4,989	31,225	3,768	7,743	22,966	57,918	39,237	96,532	4,339	4,206	39,460

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF CONCRETE PRODUCTS, EXCEPT BLOCK AND BRICK SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Other Concrete Products Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3272- --	Concrete products, except block and brick, total.....	.....	(X)	862,220	(X)	661,142
32721 --	Concrete pipe, total <sup>1</sup> .....	.....	(X)	369,103	(X)	294,786
32721 07	Prestressed pipe.....	1,000 lin. ft.	4,057	60,362	( <sup>1</sup> )	( <sup>1</sup> )
	Concrete pipe (except prestressed), reinforced and nonreinforced:					
	Culvert pipe:					
32721 13	Reinforced.....	..do.....	22,418	98,541	(NA)	103,050
32721 15	Nonreinforced.....	..do.....	7,955	12,346	(NA)	
	Sewer pipe:					
	Reinforced:					
32721 22	24 inches or more.....	..do.....	6,991	62,660	(NA)	72,344
32721 23	Less than 24 inches.....	..do.....	9,242	28,902	(NA)	
	Nonreinforced:					
32721 26	15 inches or more.....	..do.....	4,271	7,040	(NA)	23,532
32721 27	Less than 15 inches.....	..do.....	23,716	17,597	(NA)	
	Pressure pipe:					
32721 33	24 inches or more.....	..do.....	1,068	15,483	(NA)	64,929
32721 35	Less than 24 inches.....	..do.....	(S)	4,535	(NA)	
32721 41	Irrigation pipe.....	..do.....	11,109	10,306	(NA)	9,981
32721 98	Other concrete pipe (such as drain tile and conduits).....	..do.....	50,674	16,850	(NA)	16,799
32721 00	Concrete pipe, not specified by kind.....	.....	(X)	34,481	(NA)	24,151
32722 --	Precast concrete products, total.....	.....	(X)	298,999	(NA)	(NA)
	Roof and floor units:					
32722 13	Slabs and tile.....	1,000 tons....	569	30,611	(NA)	(NA)
32722 17	Joists and beams.....	..do.....	123	8,123	(NA)	(NA)
32722 23	Architectural wall panels.....	..do.....	318	43,698	(NA)	(NA)
32722 25	Piling, posts and poles.....	..do.....	73	2,912	(NA)	(NA)
32722 27	Cast stone (products for architectural purposes(except architectural wall panels) such as window sills, ashlar, coping, lintels and other trim).....	.....	(X)	22,956	(NA)	(NA)
32722 29	Other precast concrete construction or building products (including prefabricated housing components, reinforced columns, etc.).....	.....	(X)	32,863	(NA)	(NA)
32722 33	Burial vaults.....	Number.....	703,677	51,205	681,437	41,168
32722 35	Burial boxes.....	..do.....	167,734	6,684	135,933	3,797
32722 41	Silo staves.....	..do.....	(S)	17,559	(NA)	6,173
32722 61	Septic tanks.....	..do.....	337,495	28,450	(NA)	(NA)
32722 71	Dry-mixed concrete materials (including prepackaged sand, gravel and cement, mortar and cement premixes.....	Short tons....	479,435	11,336	(NA)	(NA)
32722 98	Other precast concrete products, except construction or building products (including garden furniture, storage tanks, laundry trays, grave stones, catch basin covers, shower receptors, etc.).....	.....	(X)	17,314	(NA)	(NA)
32722 00	Precast concrete products, not specified by kind.....	.....	(X)	25,288	(NA)	(NA)
32723 --	Prestressed concrete products, except prestressed pipe, total.....	.....	(X)	141,003	(NA)	(NA)
32723 11	Single tees, double tees and channels.....	1,000 tons....	1,001	43,831	(NA)	(NA)
32723 21	Joists, beams, girders, and piling (bearing and sheet).....	..do.....	1,089	45,351	(NA)	(NA)
32723 31	Slabs, tile and panels.....	..do.....	631	24,311	(NA)	(NA)
32723 98	Other prestressed concrete products (such as arches, columns, etc.)...	..do.....	168	11,195	(NA)	(NA)
32723 00	Prestressed concrete products, not specified by kind.....	.....	(X)	16,315	(NA)	(NA)
32720 00	Concrete products, not specified by kind.....	.....	(X)	53,115	(X)	79,260

(NA) Not available. (X) Not applicable. <sup>R</sup>Revised.<sup>1</sup>Separate data for prestressed pipe were not collected in 1958, therefore, detailed data shown for codes 32721 13 - 32721 98 are not directly comparable between 1958 and 1963.



# 1963 CENSUS OF MANUFACTURES

MC63(P)-32D-3



INDUSTRY SERIES

preliminary  
report

## Ready-mixed concrete SIC Code 3273

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Ready-Mixed Concrete Industry shipped products valued at \$2,291 million, an increase of 36 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 15 percent over 1958 to a total of 71 thousand employees in 1963. Value added by manufacture amounted to \$979 million in 1963, an increase of 44 percent over 1958.

The Ready-Mixed Concrete Industry includes establishments engaged primarily in the manufacture

of Portland cement concrete manufactured and delivered to a purchaser in a plastic and unhardened state. This industry includes production of central mixed concrete, shrink mixed concrete and transit mixed concrete.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years.

Table 1.—GENERAL STATISTICS FOR THE READY-MIXED CONCRETE INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3273)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	4,616	1,020	71,491	410,749	45,988	96,275	242,643	978,725	1,311,811	2,290,687	105,381
1958 <sup>3</sup> .....	3,647	944	62,116	303,111	44,203	88,351	201,971	679,385	1,008,814	1,687,151	71,603

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>The Ready-Mixed Concrete Industry was included for the first time in the Census of Manufactures for 1958. No comparable figures are available for earlier years.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March.

VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipment reported by establishments classified in the Ready-Mixed Concrete Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Ready-Mixed Concrete Industry amounted to \$2,291 million. Of this total, \$66 million were products primary to other industries; and \$197 million were receipts for miscellaneous activities. The industry shipments of primary products represent 97 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 92 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$2,076 million of ready-mixed concrete were shipped by all producers of these products. Of this total, \$2,028 million, or 98 percent, were shipped by plants classified in Industry 3273, Ready-Mixed Concrete, while the remainder was shipped by plants classified in other industries. The comparable 1958 ratio was 97 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.



## 1963 CENSUS OF MANUFACTURES

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Table 2.—GENERAL STATISTICS FOR THE READY-MIXED CONCRETE INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3273)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	4,616	1,020	71,491	410,749	45,988	96,275	242,643	978,725	1,311,811	2,290,687	105,381	62,116	679,385
New England.....	154	46	2,743	17,734	1,834	3,792	10,434	47,424	46,658	94,167	4,858	2,371	31,931
Maine.....	20	9	398	1,816	282	621	1,136	3,754	3,457	7,220	(1)	254	1,874
Massachusetts.....	57	17	1,085	7,593	679	1,421	4,287	20,745	20,447	41,289	1,863	1,014	17,203
Connecticut.....	48	13	830	5,917	605	1,167	3,614	17,263	16,532	33,772	1,562	807	9,682
Middle Atlantic..	501	117	8,694	58,221	5,549	11,505	34,900	131,765	160,478	291,804	16,123	8,265	97,950
New York.....	214	43	3,543	26,781	2,125	4,111	14,923	54,641	70,591	125,070	6,680	3,128	37,933
New Jersey.....	89	26	2,123	14,860	1,313	3,093	8,958	34,838	41,819	76,446	2,813	1,942	23,977
Pennsylvania....	197	48	3,028	16,580	2,111	4,301	11,019	42,286	48,068	90,288	6,630	3,195	36,040
East North													
Central.....	1,014	178	12,682	83,090	7,732	16,160	45,566	194,961	270,659	466,031	18,398	12,190	145,322
Ohio.....	247	49	3,499	22,872	2,016	4,138	11,834	53,040	74,218	127,274	4,755	3,567	43,149
Indiana.....	148	27	1,987	12,375	1,172	2,465	6,289	26,555	37,279	63,788	2,943	1,826	18,235
Illinois.....	267	40	2,999	19,974	1,945	4,273	12,330	48,600	70,913	119,617	3,690	2,953	41,277
Michigan.....	221	37	2,742	18,830	1,684	3,475	10,335	46,334	57,582	104,251	4,568	2,507	27,877
Wisconsin.....	131	25	1,455	9,039	915	1,809	4,878	20,432	30,667	51,091	2,442	1,337	14,789
West North													
Central.....	596	76	6,177	34,444	4,331	9,002	22,330	82,359	115,801	198,128	8,132	5,867	69,188
Iowa.....	149	11	1,078	5,964	766	1,607	4,046	15,225	22,204	37,464	1,517	994	11,540
Missouri.....	127	25	1,915	11,052	1,422	2,889	7,862	24,127	34,806	58,939	2,735	2,154	25,264
South Dakota....	34	4	268	1,246	211	394	843	3,524	5,341	8,825	527	152	1,532
Kansas.....	87	13	913	4,927	553	1,182	2,769	10,807	15,362	26,142	997	848	10,824
South Atlantic..	573	202	11,845	54,223	7,841	17,006	32,568	137,420	188,938	326,743	16,523	9,737	88,512
Delaware.....	12	4	284	1,426	245	491	1,146	3,688	4,465	8,175	(1)	297	3,152
Maryland.....	53	17	920	5,093	515	1,072	2,286	14,048	18,315	32,584	1,380	791	6,302
Virginia.....	88	27	1,688	8,035	1,378	3,058	6,032	23,068	29,111	52,213	3,182	1,267	14,938
North Carolina..	92	25	1,454	6,025	947	2,110	3,507	14,613	21,181	35,795	2,071	1,174	9,133
South Carolina..	49	10	684	2,488	504	1,081	1,709	5,928	9,326	15,234	1,289	501	4,612
Florida.....	164	73	4,005	18,566	2,225	5,060	9,657	48,145	64,102	112,340	4,166	3,696	35,227
East South													
Central.....	307	54	4,608	20,046	2,961	6,233	11,669	52,086	69,116	120,600	6,207	3,397	30,188
Kentucky.....	83	10	980	4,920	555	1,135	2,459	11,852	16,840	28,730	1,300	836	6,450
Tennessee.....	87	18	1,532	6,553	998	2,197	4,021	18,118	24,552	42,124	1,957	940	10,654
Alabama.....	77	19	1,326	5,549	877	1,790	3,353	14,771	16,913	31,609	2,055	872	8,088
Mississippi.....	60	7	770	3,024	531	1,111	1,836	7,245	10,811	18,137	895	749	4,996
West South													
Central.....	515	109	8,566	39,300	5,895	13,375	25,189	98,966	161,184	259,849	11,981	7,074	71,093
Oklahoma.....	97	10	1,176	5,780	760	1,684	3,718	14,883	21,209	36,073	1,288	978	9,649
Texas.....	284	70	5,426	25,295	3,804	8,903	16,336	63,345	106,480	169,769	8,446	3,967	42,109
Mountain.....	305	66	4,938	27,759	3,258	6,309	17,125	62,870	74,500	137,489	7,754	3,321	35,976
Idaho.....	38	4	409	2,170	311	622	1,601	3,915	5,540	9,360	(1)	270	2,576
Colorado.....	68	12	957	5,811	567	1,194	3,092	13,752	19,878	33,583	1,251	626	7,996
New Mexico.....	34	6	443	2,251	296	600	1,329	5,731	5,965	11,725	792	498	4,256
Arizona.....	48	15	1,454	7,756	1,001	1,844	5,000	16,104	15,139	31,522	2,611	843	10,188
Utah.....	39	14	677	3,497	390	762	1,979	8,152	10,891	19,046	1,017	576	6,068
Nevada.....	20	10	506	3,699	331	609	2,322	9,696	11,685	21,422	1,192	175	1,843
Pacific.....	651	172	11,238	75,932	6,587	12,893	42,862	170,874	224,477	395,886	15,405	9,894	109,225
Washington.....	95	30	1,920	12,872	1,322	2,550	8,887	24,586	25,954	50,685	2,226	1,664	18,171
Oregon.....	82	12	1,187	7,217	896	1,753	5,240	16,416	15,370	31,873	1,448	1,019	10,220
California.....	461	126	7,837	53,770	4,172	8,267	27,684	121,949	176,541	299,469	11,331	6,985	77,511

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF READY-MIXED CONCRETE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Ready-Mixed Concrete Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963			1958		
		Production for all purposes	Total shipments including interplant transfers		Production for all purposes	Total shipments including interplant transfers	
			Quantity (cubic yards)	Value (\$1,000)		Quantity (cubic yards)	Value (\$1,000)
3273- --	Ready-mixed concrete, total.....	(X)	(X)	2,076,444	(X)	(X)	1,463,569
32730 11	Ready-mixed concrete:						
	Quantity reported.....	(S)	136,828,404	1,883,087	(NA)	72,933,700	944,492
	Quantity not reported.....	(X)	(X)	193,357	(X)	(X)	519,077

(NA) Not available. (S) Does not meet publication standards. (X) Not applicable.



U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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OFFICIAL BUSINESS

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

# 1963 CENSUS OF MANUFACTURES

MC63(P)-32D-4



INDUSTRY SERIES

preliminary  
report

Lime SIC Code 3274

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Lime Industry shipped products valued at \$167 million, an increase of 27 percent over 1958, according to preliminary results obtained from the 1963 census. The 1963 average employment in this industry of 7 thousand employees was approximately the same as 1958. Value added by manufacture amounted to \$97 million in 1963, an increase of 31 percent over 1958 but approximately the same as 1962.

The Lime Industry includes establishments engaged primarily in the manufacture of quicklime, hydrated lime, and dead-burned dolomite produced from limestone, dolomite, shell and other substances. For a detailed list of products of Industry 3274, refer to table 3A.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE LIME INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3274)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	126	68	6,907	39,558	5,495	11,558	28,943	96,822	69,910	166,883	14,796	(X)
1962.....	(NA)	(NA)	6,922	38,624	5,656	11,432	29,219	96,795	60,282	155,901	(11,964)	6
1961.....	(NA)	(NA)	7,200	38,253	5,956	11,767	28,715	99,689	58,284	156,970	7,019	5
1960.....	(NA)	(NA)	7,566	39,032	6,153	12,398	29,095	97,827	60,113	156,729	(12,052)	4
1959.....	(NA)	(NA)	7,362	36,298	6,234	13,083	28,126	91,702	65,587	157,666	(12,663)	1
1958.....	137	76	7,185	32,754	6,098	12,509	25,521	73,597	57,514	130,948	6,362	(X)
1957.....	145	81	7,989	30,645	6,835	14,456	24,454	57,986	54,868	112,854	4,835	(X)
1947.....	172	94	7,009	18,767	6,129	14,200	15,516	39,253	33,589	72,842	10,745	(X)
1939.....	316	(NA)	(NA)	(NA)	6,708	(NA)	6,688	18,574	24,901	43,475	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Lime Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Lime Industry amounted to \$167 million. Of this total, \$29 million were products primary to other industries; and \$8 million were receipts for miscellaneous activities. The industry shipments of primary products represent 82 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 83 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$138 million of lime was shipped by all producers of lime products. Of this total, \$130 million, or 94 percent, were shipped by plants classified in Industry 3274, Lime, while the remainder was shipped by plants classified in other industries. The comparable percentage for 1958 was 95.

In its annual report Minerals Yearbook, the U.S. Department of the Interior, Bureau of Mines publishes detailed figures on the products listed in table 3A of this report. The variations between Bureau of Mines summary totals and the data appearing in this report are due to (1) inclusion of cost of containers and interplant transfers in Census Bureau figures and (2) differences in the reports submitted to the two agencies by individual companies.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.



GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (Table 3A) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports

will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE LIME INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3274)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	126	68	6,907	39,558	5,495	11,558	28,943	96,822	69,910	166,883	14,796	7,185	73,597
Northeast.....	28	10	1,623	10,147	1,260	2,649	7,079	19,035	15,245	34,321	1,808	1,484	13,595
East North Central.....	27	17	1,856	11,486	1,334	2,820	7,634	32,302	25,296	57,610	4,726	2,214	27,317
Ohio.....	14	9	1,479	9,232	990	2,095	5,642	24,153	16,507	40,658	4,112	1,787	21,523
West North Central.....	9	5	952	5,215	814	1,630	4,102	12,676	8,041	20,772	967	1,234	12,656
South.....	38	26	1,841	8,779	1,551	3,315	6,878	21,359	14,902	36,212	2,773	1,643	13,843
Texas.....	7	5	441	1,895	375	842	1,473	4,416	4,052	8,453	879	435	3,906
Mountain.....	13	5	335	2,062	286	602	1,738	7,423	3,352	10,792	( <sup>1</sup> )	290	2,818
Pacific.....	11	5	300	1,869	250	542	1,512	4,027	3,074	7,176	4,252	320	3,368

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF LIME SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Lime Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963			1958		
		Production for all purposes (1,000 tons)	Total shipments including interplant transfers		Production for all purposes (1,000 tons)	Total shipments including interplant transfers	
			Quantity (1,000 tons)	Value (\$1,000)		Quantity (1,000 tons)	Value (\$1,000)
3274- --	Lime, total.....	(X)	(X)	138,347	(X)	(X)	112,313
32740 11	Quicklime.....	(S)	4,917	61,687	(NA)	4,669	46,735
32740 51	Hydrated lime.....	2,346	2,260	38,588	1,855	1,813	27,560
32740 71	Dead-burned dolomite.....	2,259	2,072	34,689	1,812	1,777	29,611
32740 00	Lime, not specified by kind.....	(X)	(X)	3,383	(X)	(X)	5,070
95120 34	Cost of containers for lime products.....	(X)	(X)	(1)	(X)	(X)	3,337

(NA) Not available. (S) Does not meet publication standards. (X) Not applicable.  
<sup>1</sup>For 1963, included in value of products shipped.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR LIME SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3274	Lime.....1963...	138	119
	.....1958...	112	108

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32D-5



## INDUSTRY SERIES

preliminary  
report

### Gypsum products

SIC Code 3275

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Gypsum Products Industry shipped products valued at \$427 million, an increase of 17 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 9 percent from both 1958 and 1962 to a total of 11.5 thousand employees in 1963. Value added by manufacture amounted to \$261 million in 1963, an increase of 18 percent over 1958 and 8 percent over 1962.

The Gypsum Products Industry includes establishments engaged primarily in the manufacture of plaster, plasterboard and other products composed wholly or chiefly of plaster. For a detailed list of products of Industry 3275, refer to table 3.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE GYPSUM PRODUCTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3275)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	122	72	11,491	70,335	9,209	20,766	54,419	260,540	164,505	426,685	12,973	(X)
1962.....	(NA)	(NA)	11,883	68,127	9,520	20,675	51,940	242,248	164,963	406,356	32,200	2
1961.....	(NA)	(NA)	11,465	63,578	9,187	19,875	48,289	224,654	154,180	375,167	25,184	2
1960.....	(NA)	(NA)	12,229	64,562	9,774	21,029	48,996	228,505	157,303	382,087	25,214	2
1959.....	(NA)	(NA)	12,301	65,890	10,089	22,606	52,085	241,017	170,986	410,569	21,977	1
1958.....	126	63	11,502	57,978	9,447	20,606	45,412	218,042	146,609	364,947	12,095	(X)
1954 <sup>3</sup> .....	90	56	10,966	48,639	9,278	21,927	39,715	165,271	130,326	295,564	10,227	(X)
1947 <sup>3</sup> .....	73	50	7,472	21,384	6,543	15,552	17,911	67,879	59,664	127,543	24,386	(X)
1939 <sup>3</sup> .....	68	(NA)	5,863	8,541	4,936	(NA)	6,666	29,548	16,694	46,242	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Gypsum Products Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Gypsum Products Industry amounted to \$427 million. Of this total, \$16 million were products primary to other industries; and \$17 million were receipts for miscellaneous activities. The industry shipments of primary products represent 96 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e. the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$403 million of gypsum products were shipped by all producers of these products. Of this total, \$394 million, or 98 percent, were shipped by plants classified in Industry 3275, Gypsum Products while the remainder was shipped by plants classified in other industries. The comparable ratio for 1958 was also 98.

The U.S. Department of the Interior, Bureau of Mines, in its annual Minerals Yearbook publishes more detailed data on the production, shipment and consumption of gypsum and gypsum products. The variation between the two sets of data is due primarily to (1) inclusion of cost of containers and interplant transfers in Census Bureau Figures and (2) differences in the reports from individual companies submitted to the two agencies.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports

will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE GYPSUM PRODUCTS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3275)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	122	72	11,491	70,335	9,209	20,766	54,419	260,540	164,505	426,685	12,973	11,502	218,042
Northeast.....	25	12	2,337	14,976	1,865	4,219	11,488	46,500	31,966	78,607	2,306	2,844	46,053
East North Central.....	17	12	1,721	10,261	1,381	2,970	7,795	43,348	24,379	68,385	915	2,126	38,634
Ohio.....	5	3	458	2,774	378	827	2,174	10,174	5,463	15,935	125	652	8,996
West North Central.....	10	7	1,352	7,802	1,102	2,470	6,181	33,011	15,617	48,724	1,654	1,322	28,289
South.....	37	22	3,462	19,776	2,741	6,222	15,067	79,190	49,929	129,743	3,904	3,039	66,393
Texas.....	12	7	1,099	6,256	860	1,970	4,801	26,374	15,696	42,184	1,166	1,149	27,190
Mountain.....	13	10	1,230	8,176	1,012	2,391	6,664	24,995	18,563	43,683	1,735	974	17,136
Pacific.....	20	9	1,389	9,344	1,108	2,494	7,224	33,496	24,051	57,543	2,459	1,197	21,537

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—QUANTITY AND VALUE OF GYPSUM PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Gypsum Products Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 tons)	Value (\$1,000)	Quantity (1,000 tons)	Value (\$1,000)
3275- —	Gypsum products, total.....	(X)	403,200	(X)	344,244
32751 11	Calcined gypsum building materials, building plasters and prefabricated building materials.....	10,834	400,524	9,735	333,039
32752 11	Other calcined gypsum products, industrial plasters.....				
32750 00	Gypsum products, not specified by kind.....	(X)	2,676	(X)	6,604

(X) Not applicable.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32D-6



INDUSTRY SERIES

preliminary  
report

## Cut stone and stone products

SIC Code 3281

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Cut Stone and Stone Products Industry shipped products valued at \$218 million, an increase of 6 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 10 percent from 1958 to a total of 18 thousand employees in 1963. Value added by manufacture amounted to \$132 million in 1963, an increase of 2 percent over 1958.

The Cut Stone and Stone Products Industry includes establishments engaged primarily in cutting, shaping and finishing marble, granite, limestone, slate and other stone for building and miscellaneous uses. Establishments primarily engaged in buying or selling partly finished monuments and tombstones, but performing no work on the stones other than lettering, finishing, or shaping to custom order, are classified in trade industries. For a detailed list of products of Industry 3281, refer to table 3.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.—GENERAL STATISTICS FOR THE CUT STONE AND STONE PRODUCTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3281)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	891	212	18,378	85,849	15,300	30,992	66,754	131,698	86,809	217,758	6,636
1958.....	1,001	243	20,348	83,038	16,995	33,056	63,818	129,038	77,072	206,264	8,405
1954 <sup>3</sup> .....	977	239	21,576	78,240	18,410	36,721	60,650	121,465	70,144	191,494	4,296

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

August 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, A. Ross Eckler, Director



is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. The figures for production workers, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

#### VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Cut Stone and Stone Products Industry consists not only of products described

above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Cut Stone and Stone Products Industry amounted to \$218 million. Of this total, \$14 million were products primary to other industries; and \$15 million were receipts for miscellaneous activities. The industry shipments of primary products represent 93 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$191 million of cut stone and stone products were shipped by all producers of these products. Of this total, \$189 million, or 99 percent, were shipped by plants classified in Industry 3281, Cut Stone and Stone Products, while the remainder was shipped by plants classified in other industries. The comparable percentage for 1958 was 97.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses



## 1963 CENSUS OF MANUFACTURES

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of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to

cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE CUT STONE AND STONE PRODUCTS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3281)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	891	212	18,378	85,849	15,300	30,992	66,754	131,698	86,809	217,758	6,636	20,348	129,038
New England.....	152	43	3,921	19,692	3,325	6,907	15,881	31,099	20,982	51,774	1,567	4,725	29,224
Vermont.....	100	29	2,830	13,746	2,437	5,119	11,481	22,354	14,899	36,978	1,102	3,540	21,334
Massachusetts...	22	5	481	2,893	361	744	1,946	4,246	2,024	6,203	(1)	704	5,051
Middle Atlantic....	162	25	1,829	8,950	1,531	3,001	7,111	13,603	11,577	25,046	627	2,107	15,872
New York.....	82	12	848	4,502	677	1,268	3,426	7,475	7,055	14,403	(1)	856	7,936
New Jersey.....	14	2	103	540	79	148	404	655	733	1,380	(1)	161	1,390
Pennsylvania....	66	11	878	3,908	775	1,585	3,281	5,473	3,789	9,263	(1)	1,090	6,546
North Central.....	256	72	6,710	33,803	5,452	11,334	24,965	49,452	31,026	80,546	1,833	7,368	49,411
Indiana.....	44	20	1,857	8,765	1,651	3,263	7,469	13,079	5,878	18,946	634	2,361	14,251
Illinois.....	39	9	448	2,782	326	679	1,878	3,947	2,729	6,638	(1)	634	5,020
Wisconsin.....	34	7	426	2,467	359	744	1,981	3,900	2,090	5,965	(1)	575	3,611
Minnesota.....	31	18	1,810	9,400	1,365	3,017	6,206	12,936	10,687	23,572	(1)	1,780	12,868
Missouri.....	18	3	594	2,595	492	1,088	1,888	3,874	3,369	7,409	(1)	580	3,774
South and West....	321	72	5,918	23,404	4,992	9,750	18,797	37,544	23,224	60,392	2,609	6,148	34,531
North Carolina..	18	6	499	1,789	432	753	1,408	2,582	1,773	4,318	(1)	641	3,235
Georgia.....	73	25	2,124	8,001	1,863	3,635	6,707	14,014	7,798	21,576	799	2,149	12,019
Tennessee.....	23	7	854	3,076	723	1,417	2,450	3,368	3,053	6,337	(1)	845	4,233
Alabama.....	13	3	293	1,184	250	535	1,033	1,849	667	2,511	(D)	339	2,397
Texas.....	35	7	490	2,151	361	738	1,578	3,596	2,665	6,220	(1)	442	2,348
California.....	48	10	587	3,010	463	914	2,240	4,467	3,216	7,775	(1)	386	3,288

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup> Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF CUT STONE AND STONE PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Cut Stone and Stone Products Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)
3281- --	Cut stone and stone products, total.....	(X)	190,707	(X)	191,054
32811 --	Cut granite and granite products.....	(X)	88,276	(X)	87,906
	Granite (including gneiss, syenite, and diorite), dressed dimension stone:				
	Made at quarries:				
328211 12	Building stone.....	86,617	10,515	} r474,000	r26,116
32811 32	Monumental stone.....	254,139	11,625		
32811 97	Other granite products, such as paving block and curbing.....	107,950	3,751		
	Not made at quarries:				
32811 11	Building stone.....	94,893	17,671	(X)	4,131
32811 31	Monumental stone.....	(S)	37,309	(X)	43,910
32811 98	Other granite products, such as paving block and curbing.....	(S)	1,802	(X)	3,044
32811 00	Cut granite and granite products, not specified by kind.....	(X)	5,603	(X)	r10,705
32812 --	Cut limestone and limestone products.....	(X)	29,037	(X)	35,073
	Limestone (including dolomite, cement rock, marl, travertine, and calcareous tufa), dressed dimension stone:				
	Made in quarries:				
32812 12	Building stone.....	350,139	11,754	} r424,000	r11,322
32812 97	Other limestone products, such as flagging.....	33,739	667		
	Not made in quarries:				
32812 11	Building stone.....	(S)	13,670	(X)	17,610
32812 98	Other limestone products, such as flagging.....	7,267	387	(X)	1,814
32812 00	Cut limestone and limestone products, not specified by kind.....	(X)	2,559	(X)	r4,327
32813 --	Cut marble and other cut stone products.....	(X)	63,726	(X)	55,727
	Marble, dressed dimension stone:				
	Made in quarries:				
32813 12	Building stone.....	63,661	10,229	} 96,185	12,252
32813 34	Other marble products, such as monumental stone.....	34,207	7,087		
	Not made in quarries:				
32813 11	Building stone.....	79,346	12,877	(X)	10,961
32813 33	Other marble products such as monumental stone.....	(S)	11,386	(X)	10,735
	Other cut stone and stone products, such as slate (roofing, mill stock, flagstone), sandstone, basalt, and other dressed dimension stone products:				
32813 66	Made in quarries.....	160,305	8,848	} r301,000	r12,256
32813 65	Not made in quarries.....	(S)	8,330		
32813 00	Cut marble and other cut stone products, not specified by kind.....	(X)	4,969	(X)	r3,496
32810 00	Cut stone and stone products, not specified by kind.....	(X)	9,668	(X)	12,348

(S) Does not meet publication standards. (X) Not applicable. r Revised.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32E-1



## INDUSTRY SERIES

**preliminary  
report**

### Abrasive products

SIC Code 3291

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Abrasive Products Industry shipped products valued at \$701 million, an increase of 43 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 18 percent over 1958 to a total of 28 thousand employees in 1963; approximately the same as the 1962 average employment. Value added by manufacture amounted to \$414 million in 1963, an increase of 49 percent over 1958 and 4 percent over 1962.

The Abrasive Products Industry includes establishments engaged primarily in the manufacture of abrasive grinding wheels of natural or synthetic materials, and other abrasive products. The cutting of grindstones, pulpstones, and whetstones at the quarry is classified in mining industries. For a detailed list of products of Industry 3291, refer to table 3, product codes 3291117 to 3291498.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.--GENERAL STATISTICS FOR THE ABRASIVE PRODUCTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3291)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	377	149	28,168	186,672	18,580	37,380	107,183	414,124	286,457	700,944	15,544	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	28,498	187,925	18,074	35,159	100,869	398,328	266,613	659,527	12,148	4
1961 <sup>2</sup> .....	(NA)	(NA)	27,135	169,240	16,925	33,224	88,995	357,377	238,209	594,925	14,113	4
1960 <sup>2</sup> .....	(NA)	(NA)	27,955	172,741	18,265	34,729	91,693	354,447	253,442	605,924	16,368	3
1959 <sup>2</sup> .....	(NA)	(NA)	27,354	165,564	18,416	35,928	94,061	351,632	253,912	599,472	20,164	2
1958.....	354	130	23,955	127,912	15,971	30,891	75,499	277,706	211,163	490,752	21,098	(X)
1954 <sup>3</sup> .....	312	132	22,345	101,218	15,756	30,417	62,040	198,983	153,649	349,184	9,857	(X)
1947 <sup>3</sup> .....	254	(NA)	21,042	67,114	16,068	(NA)	45,674	127,954	98,109	225,399	(NA)	(X)
1939 <sup>3</sup> .....	124	(NA)	11,321	20,491	7,734	(NA)	10,683	44,765	26,506	71,271	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

January 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director





(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as mate-

rials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Abrasive Products Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Abrasive Products Industry amounted to \$701 million. Of this total, \$121 million were products primary to other industries; and \$41 million were receipts for miscellaneous activities. The industry shipments of primary products represented 81 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 83 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$567 million of abrasive products were shipped by all producers of these products. Of this total, \$537 million, or 95 percent, were shipped by plants classified in Industry 3291, Abrasive Products, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 96.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the



## 1963 CENSUS OF MANUFACTURES

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coming months. Series of preliminary summary reports showing U.S. Totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

## 1963 CENSUS OF MANUFACTURES

Table 2.--GENERAL STATISTICS FOR THE ABRASIVE PRODUCTS INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3291)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	377	149	28,168	186,672	18,580	37,380	107,183	414,124	286,457	700,944	15,544	23,955	277,706
New England.....	47	24	6,041	41,406	3,956	7,636	23,164	83,786	55,759	140,624	3,350	6,519	61,193
Massachusetts....	26	15	5,267	37,338	3,407	6,549	20,658	74,765	48,100	123,963	3,128	5,655	53,212
Connecticut.....	16	6	531	2,932	362	719	1,728	6,893	6,132	12,943	137	529	5,737
Middle Atlantic...	108	48	10,343	68,429	7,073	14,137	42,240	132,026	104,886	237,104	5,571	9,353	98,215
New York.....	51	23	8,045	53,933	5,489	11,003	33,291	107,366	85,243	193,353	4,345	7,219	78,811
New Jersey.....	24	8	647	4,111	449	880	2,471	6,088	5,425	11,468	215	591	4,789
Pennsylvania....	33	17	1,651	10,385	1,135	2,254	6,478	18,572	14,218	32,283	811	1,543	14,615
North Central.....	169	63	10,698	70,743	6,752	14,004	37,883	183,867	112,218	294,978	5,839	7,219	110,012
Illinois.....	54	23	1,992	11,322	1,485	2,998	7,684	39,161	23,062	61,951	1,674	1,355	25,174
Michigan.....	51	18	1,679	10,114	1,182	2,299	6,035	21,367	17,403	38,745	997	1,488	15,671
South.....	21	5	403	1,839	329	662	1,228	3,613	5,054	8,762	113	158	1,028
West.....	32	9	683	4,255	470	941	2,668	10,832	8,540	19,476	719	706	7,258

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 5.--QUANTITY AND VALUE OF ABRASIVE PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Abrasive Products Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963		1958	
			Production for all purposes (quantity)	Total shipments including inter-plant transfers	Production for all purposes (quantity)	Total shipments including inter-plant transfers
				Quantity Value (\$1,000)		Quantity Value (\$1,000)
3291- --	Abrasive products, total.....		(X)	(X) 567,218	(X)	(X) 7399,802
32911 --	Nonmetallic artificial (synthetic) sized grains, powders, and flour abrasives, total.....		(X)	(X) 174,308	(X)	(X) 230,822
32911 17	Sized grains, powders, and flour:					
32911 19	Silicon carbide.....	Short tons	99,058	92,238 23,420	(NA)	54,040 15,457
32911 29	Aluminum oxide.....	..do....	148,550	132,469 37,599	(NA)	71,723 22,837
	Other artificial sized grains, powders, and flour (including combinations of silicon carbide and aluminum oxide, boron carbide, synthetic diamond, etc.).....	..do....	(X)	(X) 112,948	(X)	3,463 1528
32911 00	Nonmetallic artificial sized grains, powders, and flour abrasives, not specified by kind.....		(X)	(X) 341	(X)	(X) (X)
32912 --	Nonmetallic (including diamond) bonded abrasive products and abrasive compounds, total.....		(X)	(X) 244,134	(X)	(X) 164,406
	Artificial and natural bonded abrasives, including grinding wheels, sticks, stones, hones, balls, tumbling media, brick (excluding refractory bricks, floor and stair brick, and similar byproducts):					
32912 32	Silicon carbide:					
32912 34	Vitrified bond.....		(X)	(X) 22,522	(X)	(X) (NA)
32912 36	Resinoid and shellac bond.....		(X)	(X) 19,120	(X)	(X) (NA)
	Rubber bond.....		(X)	(X) 2,742	(X)	(X) (NA)
	Aluminum oxide:					
32912 41	Vitrified bond.....		(X)	(X) 52,597	(X)	(X) (NA)
32912 42	Resinoid and shellac bond.....		(X)	(X) 45,321	(X)	(X) (NA)
32912 43	Rubber bond.....		(X)	(X) 9,718	(X)	(X) (NA)
32912 61	Diamond wheels.....	Carats...	(X) 7,423	109 41,171	(X)	(X) 23,792
32912 69	Other bonded abrasives.....		(X)	(X) 6,884	(X)	(X) (NA)
32912 45	Nonmetallic natural sized grains, powders, and flour.....		(NA)	(NA) 4,405	(NA)	(NA) (NA)
32912 72	Crude lump forms.....		(X)	(X) }	(X)	(X) (NA)
32912 79	Other artificial and natural nonmetallic abrasives and abrasive products, except coated abrasives (including grinding, lapping, buffing compounds, etc.).....		(X)	(X) 16,080	(X)	(X) (NA)
32912 00	Nonmetallic bonded abrasive products and abrasive compounds, not specified by kind.....		(X)	(X) 23,574	(X)	(X) (X)
32913 --	Nonmetallic coated abrasive products and buffing wheels, polishing wheels, and laps, total.....		(X)	(X) 176,273	(X)	(X) 127,387
	Coated or impregnated with any natural or artificial abrasive material:					
	Cloth:					
32913 21	Glue bond.....	Reams.....	(X)	435,002 34,986	(X)	589,481 51,033
32913 23	Resin and waterproof bond.....	..do....	(X)	388,604 50,968	(X)	
	Paper:					
32913 25	Glue bond.....	..do....	(X)	1,232,852 29,347	(X)	1,351,222 39,050
32913 27	Resin and waterproof bond.....	..do....	(X)	540,327 19,335	(X)	
	Other (including paper-cloth combinations, vulcanized fiber-cloth combinations, vulcanized fibers, etc.):					
32913 35	Glue bond.....	..do....	(X)	19,269 2,217	(X)	(X) }
32913 37	Resin and waterproof bond.....	..do....	(X)	129,069 16,033	(X)	(X) 16,808
32913 71	Buffing and polishing wheels and laps made of cloth, leather, felt, and other materials (containing no abrasive grains, powders, or flour).....		(X)	(X) 21,380	(X)	(X) 20,496
32913 00	Nonmetallic coated abrasive products and buffing wheels, polishing wheels and laps, not specified by kind.....		(X)	(X) 2,007	(X)	(X) (X)
32914 --	Metal abrasives, including scouring pads, total.....		(X)	(X) 63,242	(X)	(X) 254,697
32914 11	Steel and iron grit, shot, and sand.....	Short tons	(X)	126,562 17,208	(X)	112,948 16,383
32914 31	Steel wool.....	..do....	(X)	8,380 6,971	(X)	7,361 5,997
32914 53	Metal pads with soap and other cleanser impregnated or in package.....	Gross.....	(X)	(NA) }	(X)	11,604,022 26,918
32914 98	Other metal abrasives and scouring pads.....		(X)	(X) 36,697	(X)	(NA) 25,399
32914 00	Metal abrasives, including scouring pads, not specified by kind.....		(X)	(X) 366	(X)	(X) (X)
32910 00	Abrasive products, not specified by kind.....		(X)	(X) 9,261	(X)	(X) 14,490

(NA) Not available.

Revised.

(X) Not applicable.

\*Not directly comparable. In 1958 synthetic diamonds were classified in Industry 32913, Lapidary Work and Cutting and Polishing Diamonds. The amount is withheld to avoid disclosing figures of individual companies.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32E-2



## INDUSTRY SERIES

preliminary  
report

### Asbestos products

SIC Code 3292

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Asbestos Products Industry shipped products valued at \$509 million, an increase of 12 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 8 percent from 1958 and 11 percent from 1962 to a total of 19.5 thousand employees in 1963. Value added by manufacture amounted to \$269 million in 1963, an increase of 14 percent over 1958 and approximately the same as 1962.

The Asbestos Products Industry includes establishments engaged primarily in the manufacture of asbestos textiles, asbestos friction materials, vinyl asbestos floor tile and other commodities composed wholly or chiefly of asbestos, except asbestos paper (Industry 2661) and steam and other packing, pipe and boiler covering and gaskets (Industry 3293). For a detailed list of products of Industry 3292 refer to table 3A.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957

Table 1.—GENERAL STATISTICS FOR THE ASBESTOS PRODUCTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3292)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	123	84	19,513	118,007	15,733	32,876	89,676	269,048	240,699	509,177	12,564	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	21,845	125,947	17,716	36,643	96,108	268,174	251,367	512,903	13,911	3
1961 <sup>2</sup> .....	(NA)	(NA)	21,724	118,594	17,550	35,867	90,116	269,346	238,826	502,883	9,137	2
1960 <sup>2</sup> .....	(NA)	(NA)	22,409	119,154	18,255	37,382	92,054	279,116	243,722	514,993	18,456	2
1959 <sup>2</sup> .....	(NA)	(NA)	22,773	119,406	18,583	39,142	92,802	279,632	250,505	522,515	11,103	1
1958.....	109	80	21,292	106,411	17,024	35,046	80,440	235,487	216,612	453,488	12,837	(X)
1954 <sup>3</sup> .....	110	84	21,977	92,413	17,760	35,985	70,319	186,927	176,791	361,131	14,935	(X)
1947 <sup>3</sup> .....	112	(NA)	21,595	60,529	18,255	37,486	47,761	113,305	98,407	206,167	(NA)	(X)
1939 <sup>3</sup> .....	85	(NA)	(NA)	(NA)	10,415	(NA)	12,148	38,522	25,354	63,876	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of

products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Asbestos Products Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Asbestos Products Industry amounted to \$509 million. Of this total, \$20 million were products primary to other industries; and \$26 million were receipts for miscellaneous activities. The industry shipments of primary products represent 96 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 89 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$506 million of asbestos products were shipped by all producers of these products. Of this total, \$463 million, or 91 percent, were shipped by plants classified in Industry 3292, Asbestos Products while the remainder was shipped by plants classified in other industries. The comparable ratio for 1958 was also 91.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also

their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.

Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE ASBESTOS PRODUCTS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958  
(SIC code 3292)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	123	84	19,513	118,007	15,733	32,876	89,676	269,048	240,699	509,177	12,564	21,292	235,487
New England.....	14	9	2,203	13,567	1,743	3,586	10,353	24,544	18,469	43,233	516	2,119	19,455
Middle Atlantic...	31	21	6,492	40,543	5,205	10,753	30,126	83,230	72,238	155,430	3,942	8,474	82,550
New York.....	6	4	1,593	9,896	1,289	2,610	7,003	16,171	19,782	35,750	922	1,528	12,303
New Jersey.....	16	11	2,810	17,570	2,304	4,861	14,071	41,466	37,543	78,908	1,577	4,635	46,843
Pennsylvania....	9	6	2,089	13,077	1,612	3,282	9,052	25,593	14,913	40,772	1,443	2,311	23,404
East North Central	26	17	3,981	24,468	3,175	6,793	19,063	58,673	59,905	117,746	2,426	4,335	56,721
Illinois.....	14	9	2,541	16,891	2,041	4,517	13,384	43,929	46,963	89,911	1,275	3,027	41,325
West North Central	6	4	452	2,805	375	760	2,219	7,373	5,785	13,411	( <sup>1</sup> )	729	8,019
South.....	28	20	4,447	22,851	3,728	7,656	17,716	53,927	45,687	99,273	2,980	3,738	37,796
Louisiana.....	6	6	953	5,553	792	1,646	4,381	12,447	11,230	23,207	643	1,048	11,092
Texas.....	7	5	1,040	5,957	842	1,875	4,453	18,111	18,073	35,920	1,282	582	8,282
West.....	18	13	1,938	13,773	1,507	3,328	10,199	41,301	38,615	80,084	2,468	1,897	30,946

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF ASBESTOS PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Asbestos Products Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963		1958	
			Production for all purposes (quantity)	Total shipments including inter-plant transfers	Production for all purposes (quantity)	Total shipments including inter-plant transfers
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3292- --	Asbestos products, total.....	.....	(X)	(X)	506,331	(X) (X) <sup>r</sup> 419,667
32922 --	Asbestos friction materials.....	.....	(X)	(X)	117,653	(X) (X) 89,844
32922 11	Brake linings:					
32922 15	Woven (containing asbestos yarn, tape or cloth).....	1,000 lin. ft.	(X)	10,541	6,412	11,038 10,402 7,791
	Molded, including all nonwoven types.....	Cubic feet...	(X)	897,701	81,100	(NA) (NA) 58,909
	Clutch facing:					
32922 51	Woven (containing asbestos yarn, tape, or cloth).....	1,000 pieces..	(X)	19,015	12,134	14,833 14,830 10,159
32922 55	Molded, including all nonwoven tapes.....	...do.....	(X)	57,085	17,531	(NA) (NA) 12,985
32922 00	Asbestos friction materials, not specified by kind.....	.....	(X)	(X)	476	(X) (X) (X)
32924 --	Asbestos-cement shingles and clapboard, total.....	.....	(X)	(X)	34,703	(X) (X) <sup>r</sup> 49,152
32924 11	Siding shingles and clapboard, including accessories....	1,000 squares.	(X)	2,869	31,938	<sup>r</sup> 4,138 <sup>r</sup> 4,047 <sup>r</sup> 44,586
32924 51	Roofing shingles.....	...do.....	(X)	195	2,765	333 325 4,566
32925 11	Asphalt floor tile, total.....	1,000 sq. yds.	74,286	74,331	59,245	109,026 109,494 77,348
32926 11	Vinyl asbestos floor tile, total.....	...do.....	106,109	106,653	131,145	58,817 57,662 66,591
32927 --	Asbestos textiles and other asbestos and asbestos-cement products, total.....	.....	(X)	(X)	161,690	(X) (X) 131,782
32927 11	Asbestos textiles yarn, cord, and thread.....	1,000 lbs....	19,661	10,053	7,200	8,206 6,884 6,017
32927 21	Cloth.....	...do.....	9,422	8,144	9,142	7,296 6,663 6,898
32927 31	Other asbestos textiles (includes roving, lap, wick, rope, tape, carded fibers, etc.).....	...do.....	10,357	9,609	9,655	10,500 9,769 10,317
	Asbestos-cement flat and corrugated sheets and wallboard:					
32927 41	Flat sheets and wallboard, all thicknesses converted to 1/4" basis.....	1,000 sq. ft..	(X)	(NA)	113,532	86,437 84,720 15,916
32927 51	Corrugated sheets.....	...do.....	(X)			20,483 19,869 4,291
	Other asbestos and asbestos-cement products:					
32927 71	Pipe, conduits and ducts, including pressure pipe.....	Short tons...	(X)	(NA)	113,532	327,210 366,305 69,750
	Asbestos felts:					
32927 81	Roofing, asphalt or tar saturated.....	...do.....	(X)	52,284	8,758	21,929 22,145 4,949
32927 85	Other.....	...do.....	(X)	(S)	6,579	25,338 25,311 8,264
32927 98	Other asbestos and asbestos-cement products, including millboard, n.e.c.....	.....	(X)	(X)	6,340	(X) (X) 5,380
32927 00	Asbestos textiles and other asbestos and asbestos-cement products, not specified by kind.....	.....	(X)	(X)	484	(X) (X) (X)
32920 00	Asbestos products, not specified by kind.....	.....	(X)	(X)	1,895	(X) (X) <sup>r</sup> 4,950

(NA) Not available. (S) Does not meet publication standards. (X) Not applicable. <sup>r</sup>Revised.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR ASBESTOS PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3292- --	Asbestos products.....1963...	141	111
	.....1958...	112	112
32922 --	Asbestos friction materials.....1963...	147	107
	.....1958...	113	108
32924 --	Asbestos-cement shingles and clapboard.....1963...	48	129
	.....1958...	70	127
32925 --	Asphalt floor tile.....1963...	101	118
	.....1958...	148	104
32926 --	Vinyl asbestos floor tile.....1963...	274	111
	.....1958...	152	104
32927 --	Asbestos textiles and other asbestos-cement products.....1963...	156	102
	.....1958...	105	114

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OFFICIAL BUSINESS



# 1963 CENSUS OF MANUFACTURES

MC63(P)-32E-3



INDUSTRY SERIES

preliminary  
report

## Gaskets and insulations

SIC Code 3293

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Gaskets and Insulations Industry shipped products valued at \$278 million, an increase of 47 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 23 percent over 1958 to a total of 17 thousand employees in 1963. Value added by manufacture amounted to \$160 million in 1963, an increase of 52 percent over 1958.

The Gaskets and Insulations Industry includes establishments engaged primarily in the manufacture of gaskets (all types), packing for steam, water and other pipe joints, and for engines, air compressors, etc.; and asbestos insulating materials. Establishments primarily engaged in manufacturing leather packing are classified in Industry 3221, rubber packing in Industry 3069 and metal packing in Industry 3599. Establishments primarily engaged in manufacturing mineral wool and insulation products therefrom are classified in Industry 3296. For a detailed list of products of Industry 3293, refer to table 3.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing

Table 1.—GENERAL STATISTICS FOR THE GASKETS AND INSULATIONS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3293)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	291	109	16,754	94,090	12,643	25,815	61,935	160,217	116,462	278,201	15,120
1958.....	282	99	13,494	65,078	9,925	19,502	41,518	105,211	82,976	188,684	5,699
1954 <sup>3</sup> .....	237	87	12,807	55,115	10,128	20,340	37,241	87,253	78,615	166,073	4,954
1947 <sup>3</sup> .....	193	74	13,178	36,667	10,923	21,780	27,476	66,568	53,503	120,093	3,966
1939 <sup>3</sup> .....	134	(NA)	7,531	11,169	5,907	(NA)	7,190	19,562	17,608	37,170	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

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establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Gaskets and Insulations Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Gaskets and Insulations Industry amounted to \$278 million. Of this total, \$47 million were products primary to other industries; and \$25 million were receipts for miscellaneous activities. The industry shipments of primary products represent 81 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 87 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$258 million of gaskets and asbestos insulations and packings were shipped by all producers of these products. Of this total, \$206 million, or 80 percent, were shipped by plants classified in Industry 3293, Gaskets and Insulations, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 69.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports



will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE GASKETS AND INSULATIONS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3293)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	291	109	16,754	94,090	12,643	25,815	61,935	160,217	116,462	278,201	15,120	13,494	105,211
New England.....	17	9	930	5,356	639	1,273	2,903	9,215	6,082	15,144	(1)	911	6,687
Massachusetts...	13	5	461	2,930	298	585	1,383	5,023	4,219	9,087	(1)	423	3,277
Middle Atlantic...	76	28	4,295	26,522	3,266	6,699	18,717	45,566	29,871	76,481	(D)	3,188	24,905
New York.....	34	8	491	2,662	341	723	1,423	4,300	5,911	10,293	(1)	479	3,368
New Jersey.....	23	12	2,324	15,118	1,801	3,731	11,235	27,078	13,891	41,539	(1)	522	5,317
Pennsylvania....	19	8	1,480	8,742	1,124	2,245	6,059	14,188	10,069	24,649	(D)	2,187	16,220
East North Central	106	46	8,682	47,920	6,608	13,377	31,352	80,957	59,347	140,650	5,341	7,619	58,281
Ohio.....	25	12	1,044	5,346	808	1,640	3,542	8,994	7,133	16,140	(1)	790	5,402
Indiana.....	10	3	1,147	5,443	1,019	2,100	4,424	10,550	6,574	17,134	1,112	749	5,362
Illinois.....	43	21	5,364	30,663	3,854	7,827	18,911	49,705	35,634	83,579	3,479	4,768	37,167
Michigan.....	21	8	957	5,562	793	1,584	3,937	10,240	8,658	13,983	(1)	1,124	8,864
West North Central	16	2	251	1,143	206	413	808	1,998	2,383	4,332	(1)	77	703
South.....	32	12	1,492	6,707	1,222	2,562	4,628	11,138	11,519	22,805	(D)	864	5,605
Texas.....	12	6	500	2,616	387	852	1,589	4,571	3,218	7,727	(D)	448	3,290
West.....	44	12	1,104	6,442	702	1,491	3,527	11,343	7,260	18,789	(1)	835	9,030
California.....	35	12	1,087	6,358	689	1,464	3,461	11,195	7,051	18,417	(1)	782	8,601

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

\*Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF GASKETS AND ASBESTOS INSULATIONS AND PACKING SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Gaskets and Insulations Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963		1958		
			Total shipments including interplant transfers		Production for all purposes  (quantity)	Total shipments including interplants transfers	
			Quantity	Value (\$1,000)		Quantity	Value (\$1,000)
3293- --	Steam and other packing and pipe and boiler covering, total.....		(X)	257,783	(X)	(X)	214,136
32932 --	Gaskets, all types, total.....		(X)	196,888	(X)	(X)	143,271
	Gaskets (for sealing nonmoving parts):						
32932 11	Asbestos, asbestos-metallic, and asbestos-rubber.....		(X)	37,611	(X)	(X)	25,938
32932 21	Cork.....		(X)	16,291	(X)	(X)	11,631
32932 31	Rubber (except asbestos-rubber).....		(X)	67,368	(X)	(X)	46,091
32932 43	Paper and felt base.....		(X)	13,800	(X)	(X)	8,884
32932 51	Metal.....		(X)	27,901	(X)	(X)	22,445
32932 98	Other gaskets, including leather.....		(X)	23,786	(X)	(X)	11,814
32932 00	Gaskets, all types, not specified by kind.....		(X)	10,131	(X)	(X)	16,468
32933 --	Packing (except leather, rubber, and metal) and asbestos insulations, total.....		(X)	50,074	(X)	(X)	62,398
32933 11	Asbestos compressed sheet:						
	Quantity reported.....	1,000 lbs....	11,282	3,125	7,941	7,962	2,908
	Quantity not reported.....		(X)	(X)	(X)	(X)	459
32933 13	Packing (for sealing moving parts):						
32933 19	Asbestos, asbestos-metallic and asbestos-rubber.....	1,000 lbs....	10,895	17,410	9,646	9,071	13,207
	Other packing.....		(X)	5,593	(NA)	(NA)	7,749
	Insulation materials containing asbestos:						
	Pipe insulation:						
32933 31	Cellular and laminated.....	1,000 lin. ft.	(S)	2,878	(X)	(X)	5,303
32933 33	85 percent magnesia.....	...do.....	3,430	1,381	(X)	(X)	7,630
32933 37	Diatomaceous silica, calcium silicate, expanded silica, and asbestos fiber.....	...do.....	10,571	6,682	(X)	(X)	7,080
32933 39	Other pipe insulation.....	...do.....	(S)	2,186			
	Block insulation (including sheet and lagging):						
32933 45	Diatomaceous silica, calcium silicate, expanded silica and asbestos fiber.....	1,000 bd. ft..	11,937	1,852	21,264	21,207	5,209
32933 49	Other block insulation including cellular and laminated.....	...do.....	9,520	2,338			
32933 43	85 percent magnesia.....	...do.....		15,160	15,175	4,437	
32933 51	All other asbestos insulation.....		(X)	3,876	(X)	(X)	4,917
32933 00	Packing and asbestos insulation, not specified by kind....		(X)	2,753	(X)	(X)	3,499
32930 00	Steam and other packing and pipe and boiler coverings, not specified by kind.....		(X)	10,821	(X)	(X)	8,467

(NA) Not available.

(S) Does not meet publication standards.

(X) Not applicable.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32E-5



## INDUSTRY SERIES

preliminary  
report

### Mineral wool

SIC Code 3296

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Mineral Wool Industry shipped products valued at \$391 million, an increase of 55 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 20 percent over 1958 to a total of 15 thousand employees in 1963; approximately the same as 1962. Value added by manufacture amounted to \$207 million in 1963, an increase of 51 percent over 1958 but a decrease of 3 percent from 1962.

The Mineral Wool Industry includes establishments engaged primarily in the manufacture of mineral wool and mineral wool insulation products made of rock, slag, or glass, or combinations thereof. Establishments primarily engaged in manufacturing asbestos insulation products are classified in Industries 3292 and 3293; textile type glass fibers in Industry 3229 and exfoliated vermiculite products in Industry 3295. For a detailed list of products of Industry 3296, refer to table 3A, product codes 3296111 to 3296298.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.—GENERAL STATISTICS FOR THE MINERAL WOOL INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3296)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	121	67	14,713	92,224	11,639	24,756	69,031	207,216	185,462	390,892	23,891	(X)
1962 <sup>3</sup> ....	(NA)	(NA)	14,788	93,342	11,869	24,762	66,728	212,901	188,379	398,466	15,129	3
1961 <sup>2</sup> ....	(NA)	(NA)	13,460	78,191	10,807	22,970	57,835	186,152	163,602	347,363	13,560	3
1960 <sup>2</sup> ....	(NA)	(NA)	12,849	70,514	10,288	20,583	51,636	165,179	144,160	307,105	15,254	2
1959 <sup>2</sup> ....	(NA)	(NA)	13,358	71,625	10,444	22,491	52,599	166,595	144,856	309,009	13,834	1
1958 <sup>2</sup> ....	135	69	12,294	61,058	9,267	19,229	43,714	137,577	114,167	251,681	10,488	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Establishments primarily engaged in producing exfoliated vermiculite were classified in Industry 3296, Mineral Wool and are included in the figures for the years 1958-1962. For 1963, the classification of these plants was changed to Industry 3295, Minerals and Earths, Ground or Otherwise Treated. The value of shipments of these establishments was approximately \$11 million in 1958.

<sup>4</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that data for the industry prior to 1958 are not directly comparable. Details of this revision are described in the 1958 Census of Manufactures Volume II, Industry Statistics.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

### VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Mineral Wool Industry consists not only of products described above as primary to

the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Mineral Wool Industry amounted to \$391 million. Of this total, \$38 million were products primary to other industries; and \$13 million were receipts for miscellaneous activities. The industry shipments of primary products represented 90 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$354 million of mineral wool were shipped by all producers of these products. Of this total, \$340 million, or 96 percent, were shipped by plants classified in Industry 3296, Mineral Wool, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 95.

### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports



will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE MINERAL WOOL INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3296)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wagea (\$1,000)						
United States, total.....	121	67	14,713	92,224	11,639	24,756	69,031	207,216	185,462	390,892	23,891	12,294	137,577
Middle Atlantic...	23	12	2,386	15,275	1,860	3,949	11,049	36,166	30,722	66,664	5,730	1,828	23,097
New Jersey.....	6	5	1,501	10,321	1,146	2,496	7,389	22,963	24,751	47,524	5,254	1,123	15,446
Pennsylvania....	9	5	763	4,356	618	1,265	3,203	12,187	5,047	17,210	(D)	555	6,634
North Central.....	46	30	8,436	51,455	6,847	14,665	41,514	105,803	106,050	209,783	12,512	7,872	86,676
Indiana.....	13	10	1,757	9,946	1,461	3,086	7,813	18,530	15,187	33,085	1,822	1,907	19,247
East South Central	10	8	460	2,318	349	743	1,439	5,336	4,826	10,153	144	635	4,686
West South Central	9	5	352	1,766	217	432	997	4,230	3,158	7,214	199	295	2,832
Pacific.....	19	7	1,956	14,852	1,466	3,155	8,977	34,112	29,407	63,616	4,168	1,276	16,426

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

Table 3A.—QUANTITY AND VALUE OF MINERAL WOOL SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Mineral Wool Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3296- --	Mineral wool, total.....		(X)	353,915	(X)	<sup>1</sup> 236,436
32961 --	Mineral wool for structural insulation from rock, slag, or glass (for insulating homes, commercial and industrial buildings for human comfort), total.....		(X)	107,462	(X)	<sup>1</sup> 71,839
32961 11	Loose wool (shipped as such) and granulated wool.....	Short tons...	241,309	19,061	289,541	14,854
32961 23	Building batts, blankets, and rolls:					
32961 27	4.5 inches and more.....	1,000 sq. ft.	127,698	6,108	642,474	24,740
32961 33	3 to 4.4 inches thick.....	..do.....	1,031,429	41,708		
32961 33	2 to 2.9 inches thick.....	..do.....	581,824	21,824	606,226	17,949
32961 37	Less than 2 inches thick.....	..do.....	311,601	11,693	532,757	13,244
32961 98	Other mineral wool for structural insulation.....					
32961 00	Mineral wool for structural insulation, not specified by kind....		(X)	7,068	(X)	( <sup>2</sup> ) 1,052
32962 --	Mineral wool for industrial and equipment insulation from rock, slag or glass, total.....		(X)	239,909	(X)	<sup>1</sup> 141,966
	Blankets (flexible):					
	Industrial insulation:					
32962 33	Plain.....	1,000 bd. ft.	(S)	38,500	387,148	17,585
32962 35	Faced, coated, and metal-meshed.....	..do.....			194,937	14,007
32962 37	Equipment insulation.....	..do.....	(S)	55,537	433,520	21,261
32962 51	Blocks and boards.....	..do.....	586,304	43,670	248,202	30,251
32962 61	Pipe insulation.....	1,000 lin.ft.	94,176	29,728	76,805	22,960
32962 71	Acoustical pads and boards.....	1,000 sq. ft.	355,719	53,476	145,892	30,631
32962 98	Other mineral wool for industrial and equipment insulation such as loose wool (shipped as such) granulated wool, felts, insulating and finishing cements, etc.....		(X)	6,711	(X)	5,271
32962 00	Mineral wool for industrial and equipment insulation, not specified by kind.....		(X)	12,287	(X)	(X)
32960 98	Other mineral wool insulating products, n.e.c.....		(X)	( <sup>3</sup> )	(X)	16,940
32960 00	Mineral wool, not specified by kind.....		(X)	6,544	(X)	5,691

n.e.c. Not elsewhere classified. (S) Does not meet publication standards. (X) Not applicable.

<sup>1</sup>Revised-exfoliated vermiculite reclassified from Industry 3296 in 1958 to Industry 3295 in 1963.

<sup>2</sup>Included in figure for code 3296098 for 1958.

<sup>3</sup>Included in figures for codes 3296198 and 3296298 for 1963.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR MINERAL WOOL SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3296-	Mineral wool.....1963...	293	75
	.....1958...	173	85
32961	Mineral wool for structural insulation.....1963...	158	108
	.....1958...	137	88
32962	Mineral wool for industrial and equipment insulation.....1963...	423	60
	.....1958...	182	83

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-32E-6



## INDUSTRY SERIES

preliminary  
report

### Nonclay refractories

SIC Code 3297

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Nonclay Refractories Industry shipped products valued at \$247 million, an increase of 39 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 6 percent over 1958 to a total of 8 thousand employees in 1963. Value added by manufacture amounted to \$127 million in 1963, an increase of 24 percent over 1958.

The Nonclay Refractories Industry includes establishments engaged primarily in the manufacture of refractories and crucibles made of materials other than clay. This industry also includes establishments primarily engaged in manufacturing all graphite refractories, whether of carbon bond or ceramic bond. Establishments primarily engaged in manufacturing clay refractories are classified in Industry 3255. For a detailed list of products of Industry 3297, refer to table 3A, product codes 3297012 to 3297098.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments

Table 1.--GENERAL STATISTICS FOR THE NONCLAY REFRACTORIES INDUSTRY FOR SELECTED YEARS  
(SIC code 3297)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963.....	93	68	8,460	52,390	6,780	13,406	38,366	127,184	121,936	246,799	7,915
1958.....	84	66	8,013	41,167	6,325	11,657	30,352	102,362	73,770	177,643	14,933
1954 <sup>2</sup> .....	77	59	8,559	34,260	7,150	12,890	26,124	77,443	78,717	132,130	3,739
1947 <sup>2</sup> .....	63	50	10,273	27,783	8,951	17,626	22,963	58,022	35,774	90,337	5,772
1939 <sup>2</sup> .....	41	(NA)	(NA)	(NA)	4,542	(NA)	4,936	13,464	9,760	23,224	(NA)

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>Data for Alaska and Hawaii are not included.

January 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director





for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Nonclay Refractories Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Nonclay Refractories Industry amounted to \$247 million. Of this total, \$6 million were products primary to other industries; and \$8 million were receipts for miscellaneous activities. The industry shipments of primary products represented 97 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$252 million of nonclay refractories were shipped by all producers of these products. Of this total, \$232 million, or 92 percent, were shipped by plants classified in Industry 3297, Nonclay Refractories, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 89.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries, and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment

as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary

reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE NONCLAY REFRACTORIES INDUSTRY BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3297)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	93	68	8,460	52,390	6,780	13,406	38,366	127,184	121,936	246,799	7,915	8,013	102,362
Middle Atlantic.....	37	26	3,451	21,847	2,513	4,920	14,418	41,867	37,355	79,734	2,413	3,598	36,265
Pennsylvania.....	25	18	2,080	12,495	1,663	3,181	9,367	23,292	20,515	44,298	1,075	2,432	25,279
East North Central.....	27	21	2,015	11,970	1,724	3,286	9,216	37,572	33,947	70,588	1,646	1,759	25,941
Ohio.....	13	11	995	6,134	838	1,632	4,499	17,695	14,556	29,971	925	807	11,414
South.....	14	10	2,311	14,539	1,996	4,116	11,830	36,547	38,837	72,743	3,565	1,997	29,703
West.....	10	7	493	2,858	413	805	2,177	6,715	9,995	19,406	197	461	8,489

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)



Table 3A.--QUANTITY AND VALUE OF NONCLAY REFRACTORIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Nonclay Refractories Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3297--	Nonclay refractories, total.....		(X)	251,808	(X)	186,905
32970 12	Silica brick and shapes.....	1,000 9" equiv.	119,290	22,499	202,685	42,190
32970 15	Magnesite and magnesite-chrome (magnesite predominating) brick and shapes (excluding molten cast) <sup>1 2</sup> .....	...do.....	77,422	68,344	39,673	30,692
32970 21	Chrome and chrome-magnesite (chrome predominating) brick and shapes (excluding molten cast) <sup>1 2</sup> .....	...do.....	37,326	29,513	42,582	30,296
32970 52	Mullite brick and shapes made predominantly of kyanite, sillimanite, andalusite on synthetic mullite (excluding molten cast) <sup>1 2</sup> .....	...do.....	6,073	7,058	4,047	4,764
32970 53	Extra high alumina brick and shapes made predominantly of fused bauxite, fused or dense-sintered alumina (excluding molten cast) <sup>2 3</sup> .....	...do.....	3,173	5,661	2,001	4,099
32970 54	Silicon carbide brick and shapes made substantially of silicon carbide.....	...do.....	4,113	9,552	3,802	8,285
32970 55	Zircon and zirconia brick and shapes made predominantly of either of these materials.....	...do.....	953	3,867	547	2,010
32970 56	Forsterite, pyrophyllite, molten cast, and other nonclay brick and shapes <sup>2</sup> .....	...do.....	(NA)	30,314	(X)	14,586
32970 63	Nonclay refractory bonding mortars, air-setting (wet and dry types)....	Short tons.....	204,089	17,897	97,800	9,615
32970 65	Nonclay refractory bonding, except air-setting types.....	...do.....	19,910	1,758	19,261	1,521
32970 91	Nonclay refractory castables (hydraulic setting).....	...do.....	13,255	2,060	5,947	730
32970 71	Nonclay plastic refractories and ramming mixes (wet and dry types)....	...do.....	182,695	21,979	188,137	20,578
32970 33	Graphite crucibles, retorts, stopper heads, and other shaped refractories containing natural graphite.....	...do.....	13,024	10,077	13,537	8,119
32970 35	Carbon refractories; brick, blocks, and shapes, excluding those containing natural graphite.....	...do.....	233,140			
32970 92	Nonclay gunning mixes.....	...do.....		21,229	147,200	9,420
32970 98	Other nonclay refractory materials, sold in lump or ground form <sup>4</sup> .....	...do.....				

<sup>1</sup>Revised. (X) Not applicable.

<sup>2</sup>Molten cast brick and shapes are included with "Forsterite, pyrophyllite, molten cast and other nonclay brick and shapes."

<sup>3</sup>Molten cast refractories are made by fusing refractory oxides as in an electric furnace and pouring the molten material into molds to form finished shapes.

<sup>4</sup>Fused as applied to bauxite and alumina means complete melting, as in an electric furnace; after cooling, the product is crushed and graded for use in the refractory. Dense-sintered alumina refers to heat treatment (short of melting) to render it relatively volume-stable for use in a refractory.

<sup>5</sup>Represents shipments for direct use as finished refractory products by establishments classified in "manufacturing" industries, and excludes shipments to refractory producers for processing in the manufacture of brick and other refractories.

SOURCE: Current Industrial Reports Series M32C, Refractories.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR NONCLAY REFRACTORIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3297	Nonclay refractories..... 1963...	151	130
	..... 1958...	120	122

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# 1963 CENSUS OF MANUFACTURES



MC63(P)-33A-1

INDUSTRY SERIES

preliminary  
report

## Blast furnaces and steel mills

SIC Code 3312

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Blast Furnaces and Steel Mills Industry shipped products valued at \$16,338 million, an increase of 18 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 2 percent from 1958 and no significant change from 1962 to a total of 501 thousand employees in 1963. Value added by manufacture amounted to \$7,425 million in 1963, an increase of 18 percent from 1958 and 11 percent from 1962.

The Blast Furnaces and Steel Mills Industry includes establishments engaged primarily in the manufacture of hot metal, pig iron, silvery pig iron, and ferroalloys from iron ore and iron and steel scrap; converting pig iron, scrap iron and scrap steel into steel; and in hot rolling iron and steel into basic shapes such as plates, sheets, strips, rods, bars, and tubing. Merchant blast furnaces and byproduct or beehive coke ovens are also included in this industry.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.--GENERAL STATISTICS FOR THE BLAST FURNACES AND STEEL MILLS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3312)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	289	248	501,189	3,714,902	412,845	791,949	2,892,600	7,425,351	8,960,389	16,338,158	907,725	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	502,202	3,612,064	406,627	764,643	2,753,197	6,620,897	8,698,774	15,571,583	707,767	1
1961 <sup>2</sup> .....	(NA)	(NA)	503,417	3,523,170	409,098	767,626	2,670,185	6,546,304	8,529,911	14,873,318	805,462	1
1960 <sup>2</sup> .....	(NA)	(NA)	549,956	3,629,384	449,616	831,797	2,777,234	6,844,374	8,917,313	15,738,776	1,190,707	1
1959 <sup>2</sup> .....	(NA)	(NA)	507,540	3,448,374	419,385	776,515	2,636,672	6,823,398	8,533,145	15,628,664	669,266	1
1958.....	291	260	511,392	3,185,483	417,216	765,941	2,415,959	6,062,227	7,472,015	13,422,585	959,033	(X)
1954.....	(NA)	(NA)	553,850	2,581,270	470,823	883,037	2,059,515	5,055,409	(NA)	(NA)	580,530	(X)
1947.....	(NA)	(NA)	568,915	1,804,157	499,709	1,006,733	1,516,321	2,844,595	(NA)	(NA)	(NA)	(X)
1939.....	(NA)	(NA)	460,128	749,129	410,134	(NA)	630,517	1,320,392	(NA)	(NA)	(NA)	(X)

<sup>2</sup>Revised. (NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>The value of shipments and cost of materials for this industry includes extensive duplication arising from shipments between establishments in the same industry classification. For further explanation see text "Value of Shipments."

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

Data on cost of materials and value of shipments of the Blast Furnaces and Steel Mills Industry include extensive duplication resulting from the transfer of products such as coke to establishments producing pig iron; the transfer of pig iron from nonintegrated blast furnaces to steel works; and the fact that considerable quantities of steel ingots, semifinished shapes and finished shapes and forms are transferred from one steel mill to another for further processing. The value of such shipments are duplicated in the total value of shipments. A corresponding duplication enters into the total cost of materials. The data shown for value added by manufacture (value of shipments less cost of materials, etc.) avoid this duplication.

In view of the duplication in value of shipments, the exact "primary product specialization ratio" and the exact "coverage ratio" for this industry have not been computed.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted

every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE BLAST FURNACES AND STEEL MILLS INDUSTRIES BY GEOGRAPHIC AREAS: 1963 AND 1958  
(SIC Code 3312)

Division and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials <sup>1</sup>	Value of shipments <sup>2</sup>	Capital expendi- tures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	289	248	501,189	3,714,902	412,845	791,949	2,892,600	7,425,351	8,960,389	16,338,158	907,725	511,392	6,062,227
New England.....	6	5	2,719	19,802	2,082	4,023	14,215	33,729	37,414	74,698	1,449	3,784	29,920
Middle Atlantic...	106	94	180,809	1,302,794	146,970	280,167	1,001,771	2,441,119	3,144,406	5,570,225	215,012	194,521	2,043,799
Pennsylvania....	83	72	150,640	1,084,734	122,366	232,369	831,415	2,013,755	2,765,193	4,773,970	189,196	163,926	1,704,448
North Central.....	89	76	206,932	1,581,488	173,164	335,552	1,249,109	3,323,777	4,297,059	7,606,968	488,166	202,654	2,497,233
Ohio.....	35	32	79,558	586,690	68,535	130,482	416,915	1,247,427	1,669,115	2,906,249	153,003	82,748	979,211
Indiana.....	12	10	57,010	438,278	46,764	91,718	343,037	982,260	1,140,592	2,131,131	203,787	56,338	765,896
Illinois.....	21	19	41,569	321,539	34,202	66,602	247,363	547,175	702,564	1,246,602	45,017	38,345	442,602
Michigan.....	11	8	21,288	178,322	17,799	35,640	140,421	433,560	701,554	1,135,160	(D)	17,347	219,511
South.....	61	53	82,285	593,422	67,577	128,574	464,471	1,182,571	1,077,608	2,243,551	167,162	81,009	1,077,359
West.....	27	20	28,444	217,396	23,052	43,633	163,034	444,155	403,902	842,716	35,936	29,424	413,916
California.....	17	12	15,834	122,450	12,966	24,509	92,509	228,249	240,166	469,173	(D)	15,605	225,725

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>See table 1, footnote 3.



Table 3.—QUANTITY AND VALUE OF BLAST FURNACE AND STEEL MILL PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Blast Furnaces and Steel Mills Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

		1963										1958	
Product code	Product	Unit of measure	Produce- tion	Shipments including interplant transfers						Produced and consumed in the same plant in the manufacture of other products	Total shipments including interplant transfers		
				Total		Shipments to other companies		Transfers to other plants of the same company			Quantity	Value (\$1,000)	
				Quantity	Value (\$1,000)	Quantity	Value (\$1,000)	Quantity	Value (\$1,000)				
3312- --	Blast furnace (including coke oven), steel works and rolling mill products, total.....	.....	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	14,558,530		
33121 --	Coke oven, blast furnace, and electrometallurgical products.....	.....	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	1,524,337		
33130 --	Coke oven products: <sup>1</sup>	.....											
33121 11	Coke, except screenings and breeze.....	1,000 short tons	52,592	288,775	8,833	137,738	9,912	151,037	17,547	321,072	36,435		
33121 12	Screenings and breeze.....	do.	3,461	10,895	928	7,323	496	3,572	1,140	8,430	21,096		
33121 31	Coke oven gas.....	Million cu. ft.	1,264,027	31,358	43,595	11,478	100,874	19,880	1,141,219	163,906	52,165		
33121 41	Other coke oven byproducts:	.....	(X)	18,359	(X)	18,064	(X)	295	(X)	(X)	19,983		
33121 51	Ammonia (sulfate and liquor).....	1,000 gallons	651,294	37,309	287,007	30,447	67,151	6,862	330,848	399,093	5,360		
33121 61	Crude tar.....	do.	(X)	20,393	(X)	20,393	(X)	2,620	131,300	30,656	45,819		
33121 71	Tar derivatives.....	1,000 gallons	195,253	68,549	119,583	29,052	11,911	2,316	50,292	159,842	12,374		
33121 81	Crude light oil.....	do.	194,160	31,368	(X)	(X)	(X)	(X)	(X)	(X)			
33121 83	Light oil derivatives.....	.....	(X)	(2)	(X)	(X)	(X)	(X)	(X)	(X)			
33121 83	Other coke-oven products.....	.....	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)			
33121 91	Blast furnace products:	.....											
33121 91	Pig iron, including pig iron with silicon content up to and including 6%.....	1,000 short tons	61,048	638,457	3,218	198,078	8,568	440,379	47,356	9,157	514,232		
33121 92	Slag.....	do.	(X)	(X)	(X)	(D)	(X)	(D)	(X)	19,889	10,509		
33121 93	Sinter from ore, flue dust, and other materials.....	do.	44,875	297,807	(X)	(D)	(X)	(D)	40,416	(X)	8,745		
33121 94	Blast furnace gas.....	Million cu. ft.	3,761,237						3,690,135				
33130 --	Electrometallurgical products:	.....											
33121 pt.	Made in steel mills (Industry 3312).....	(Short tons gross alloy wt.)	(NA)	82,560	(NA)	(NA)	(NA)	(NA)	(NA)	504,800	94,040		
	Made in electrometallurgical products (Industry 3313) and other industries.....	do.	(NA)	329,029	(NA)	(NA)	(NA)	(NA)	(NA)	1,149,600	374,077		
	Total for all industries.....	do.	(NA)	411,569	(NA)	(NA)	(NA)	(NA)	(NA)	1,654,400	468,117		
33122 --	Steel ingot and semi-finished shapes: <sup>3</sup>	.....	(X)	1,982,716	(X)	(X)	(X)	(X)	(X)	(X)	1,846,924		
	As reported in census of manufactures.....	.....	(X)	1,978,253	(X)	(X)	(X)	(X)	(X)	(X)	1,833,913		
	As reported on Annual Form MA-33B.....	.....	(X)	3,915,472	(X)	(X)	(X)	(X)	(X)	(X)	3,169,284		
33123 --	Tin mill products, hot rolled sheet and strip: <sup>3</sup>	.....	(X)	3,931,707	(X)	(X)	(X)	(X)	(X)	(X)	3,125,915		
	As reported in census of manufactures.....	.....	(X)	3,611,424	(X)	(X)	(X)	(X)	(X)	(X)	2,879,672		
	As reported on Annual Form MA-33B.....	.....	(X)	3,639,007	(X)	(X)	(X)	(X)	(X)	(X)	2,856,680		
33124 --	Hot rolled bars and bar shapes, plates: <sup>3</sup>	.....	(X)	587,786	(X)	(X)	(X)	(X)	(X)	(X)	556,712		
	As reported in census of manufactures.....	.....	(X)	608,910	(X)	(X)	(X)	(X)	(X)	(X)	564,734		
	Made in steel mills (Industry 3312).....	.....	(X)	361,918	(X)	(X)	(X)	(X)	(X)	(X)	350,175		
	Made in steel wire drawing (Industry 3315) and other industries.....	.....	(X)	246,992	(X)	(X)	(X)	(X)	(X)	(X)	214,559		
33125 --	Steel wire: <sup>3</sup>	.....	(X)	1,797,047	(X)	(X)	(X)	(X)	(X)	(X)	1,670,077		
	As reported in census of manufactures.....	.....	(X)	1,868,466	(X)	(X)	(X)	(X)	(X)	(X)	1,723,643		
	Made in steel mills (Industry 3312).....	.....	(X)	1,149,802	(X)	(X)	(X)	(X)	(X)	(X)	993,340		
	Made in steel pipe and tubes (Industry 3317) and other industries.....	.....	(X)	718,664	(X)	(X)	(X)	(X)	(X)	(X)	730,303		

See footnotes at end of table.



Table 3. —QUANTITY AND VALUE OF BLAST FURNACE AND STEEL MILL PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Unit of measure	Production	1963						1958	
				Shipments including interplant transfers	Produced and consumed in the same plant in the manufacture of other products	Total shipments including interplant transfers	Shipments to other companies			Transfers to other plants of the same company	
							Total	Shipments to other companies		Transfers to other plants of the same company	
								Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
33127 --	Cold rolled steel sheet and strip: <sup>3</sup>										
33167 --	As reported on Annual Form MA-33B										
33127 01	As reported in census of manufactures		(X)		(X)		(X)		(X)		2,073,358
33167 01	Made in steel mills (Industry 3312)		(X)		(X)		(X)		(X)		2,091,623
	Made in cold finishing of steel shapes (Industry 3316) and other industries		(X)		(X)		(X)		(X)		1,838,390
	Cold finished steel bars, and bar shapes: <sup>3</sup>										
33128 --	As reported on Annual Form MA-33B <sup>5</sup>										
33168 --	As reported in census of manufactures		(X)		(X)		(X)		(X)		331,530
33128 01	Made in steel mills (Industry 3312)		(X)		(X)		(X)		(X)		338,924
33168 01	Made in cold finishing of steel shapes (Industry 3316) and other industries		(X)		(X)		(X)		(X)		130,623
33129 --	Press and hammer steel forgings: <sup>6</sup>										
33919 --	Made in steel works (Industry 3312)		(X)		(X)		(X)		(X)		119,487
33129 --	Made in steel forgings (Industry 3391) and other industries		(X)		(X)		(X)		(X)		101,377
33919 --	Total for all industries		(X)		(X)		(X)		(X)		220,864
	Open die hammer forgings:										
33129 21	Carbon steel	Short tons	(X)	101,198	53,259	(X)	(X)	(X)	(X)	7126,836	759,174
33129 23	Alloy steel (except stainless)	do	(X)	47,356	58,598	(X)	(X)	(X)	(X)	8137,373	8138,472
33129 25	Stainless steel	do	(X)	4,107	10,273	(X)	(X)	(X)	(X)	97,749	918,310
	Open die press forgings:										
33129 61	Carbon steel	do	(X)	104,484	46,099	(X)	(X)	(X)	(X)	(7)	(7)
33129 63	Alloy steel (except stainless)	do	(X)	94,620	99,182	(X)	(X)	(X)	(X)	(8)	(8)
33129 65	Stainless steel	do	(X)	2,357	5,136	(X)	(X)	(X)	(X)	(9)	(9)
33129 00	Open die hammer and press forgings, not specified by kind		(X)		6,187	(X)	(X)	(X)	(X)	(X)	4,908
33120 41	Other steel mill products, except wire products: <sup>3</sup>										
	As reported on Annual Form MA-33B		(X)		184,397	(X)	(X)	(X)	(X)	(X)	194,224
	As reported in census of manufactures		(X)		198,235	(X)	(X)	(X)	(X)	(X)	198,515

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Excludes quantities produced in byproduct coke ovens operated in conjunction with utilities manufacturing and distributing gas.<sup>2</sup>Data for product code 3312183 included with product codes 3312192, 3312193 and 3312194.<sup>3</sup>Excludes shipments of steel processed on a conversion basis from nonsteel producing companies. Detailed data by shape and grade and net shipments figures appear in Current Industrial Reports, Series M-33B "Steel Mill Products" for 1963.<sup>4</sup>Data reported in the census of manufactures differ from comparable figures reported in Annual Survey MA-33B chiefly due to companies not included in the annual survey. In addition these were minor differences between figures for a few companies reporting in the two surveys.<sup>5</sup>Data originally published in Current Industrial Reports, Series M-33B "Steel Mill Products" for product classes 33126 and 33128 have been revised. These revised data appear in the preliminary reports for industries 3316 and 3317.<sup>6</sup>These figures are not strictly comparable with tonnage shipments shown in Current Industrial Reports, Series M-33C, "Commercial Steel Forgings," in that the latter includes only forgings "for sale," whereas the 1963 and 1958 censuses of manufactures include interplant transfers of forgings. Accordingly, a direct comparison with the monthly Current Industrial Reports series is not possible. Forgings produced and consumed within the same plant are not included in either the census or the Current Industrial Reports figures. The estimated annual totals reported in the monthly Current Industrial Reports survey for commercial steel forgings were as follows:

Item	1963		1958	
	Short tons	Short tons	Short tons	Short tons
Carbon.....	156,074	92,096		
Alloy, including stainless.	219,936	163,480		

<sup>7</sup>In 1958 product codes 3312921 and 3312961 were combined.<sup>8</sup>In 1958 product codes 3312923 and 3312963 were combined.<sup>9</sup>In 1958 product codes 3312925 and 3312965 were combined.



# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume 1, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume 1, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by industry, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.



U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-33A-2



INDUSTRY SERIES

preliminary  
report

## Electrometallurgical products

SIC Code 3313

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Electrometallurgical Products Industry had total shipments valued at \$399 million, approximately equal to 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 17 percent from 1958 and 4 percent from 1962 to a total of 10,5 thousand employees in 1963. Value added by manufacture amounted to \$148 million in 1963, a decrease of 17 percent from 1958 and 8 percent from 1962.

The Electrometallurgical Products Industry includes establishments engaged primarily in the manufacture of ferro and nonferrous additive alloys by electrometallurgical processes, including high percentage ferroalloys and high percentage nonferrous additive alloys.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent

Table 1.—GENERAL STATISTICS FOR THE ELECTROMETALLURGICAL PRODUCTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3313)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	36	29	10,520	69,451	8,304	16,712	51,282	148,346	243,613	399,487	13,476	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	10,954	72,450	8,345	17,488	51,516	160,897	231,519	386,440	15,891	3
1961 <sup>2</sup> .....	(NA)	(NA)	11,075	70,257	8,423	16,955	48,998	146,885	231,636	399,563	8,971	2
1960 <sup>2</sup> .....	(NA)	(NA)	12,544	76,062	9,305	18,378	52,479	145,278	242,395	380,726	17,185	2
1959 <sup>2</sup> .....	(NA)	(NA)	13,337	80,081	10,081	20,429	55,977	184,610	266,057	456,846	14,335	1
1958.....	37	35	12,689	71,883	9,304	18,961	48,988	178,880	221,509	399,122	16,969	(X)
1954 <sup>3</sup> .....	31	29	11,361	51,332	8,834	17,614	36,895	118,785	157,957	272,751	22,313	(X)
1947 <sup>3</sup> .....	19	(NA)	9,628	29,285	8,175	16,678	23,449	55,493	95,411	150,904	(NA)	(X)
1939 <sup>3</sup> .....	18	(NA)	(NA)	(NA)	2,774	(NA)	4,234	15,868	25,119	40,987	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Electrometallurgical Products Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Electrometallurgical Products Industry amounted to \$399 million. Of this total, \$58 million were products primary to other industries; and \$21 million were receipts for miscellaneous activities. The industry shipments of primary products represent 85 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$423 million of electrometallurgical products were shipped by all producers of these products. Of this total, \$321 million, or 76 percent, were shipped by plants classified in Industry 3313, Electrometallurgical Products, while the remainder was shipped by plants classified in other industries. The 1958 ratio was also 76 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.



## 1963 CENSUS OF MANUFACTURES

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Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809.

For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE ELECTROMETALLURGICAL PRODUCTS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3313)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	36	29	10,520	69,451	8,304	16,712	51,282	148,346	243,613	399,487	13,476	12,689	178,880
Middle Atlantic...	5	4	1,815	12,543	1,258	2,661	8,071	25,333	44,063	68,783	1,475	2,986	33,569
North Central.....	14	12	4,283	28,595	3,304	6,553	20,647	65,698	100,012	168,741	7,091	4,084	60,438
Ohio.....	8	8	3,736	25,168	2,885	5,718	18,398	56,584	84,200	143,835	(D)	3,578	53,470
South.....	10	9	3,786	23,909	3,209	6,402	19,057	49,423	83,629	137,050	4,415	4,474	58,898
West.....	7	4	636	4,404	533	1,096	3,507	7,892	15,909	24,913	(1)	1,145	25,975

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF FERROALLOYS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product	Unit of measure	1963						1958						Produced and consumed in the same plant in the manu- facture of other products		
			Shipments including interplant transfers				Produce- tion	Shipments including interplant transfers				Produce- tion	Shipments including interplant transfers				
			Total shipments		Transfers to other companies			Total shipments		Transfers to other companies			Total shipments			Transfers to other companies	
			Quan- tity	Value (\$1,000)	Quan- tity	Value (\$1,000)		Quan- tity	Value (\$1,000)	Quan- tity	Value (\$1,000)		Quan- tity	Value (\$1,000)		Quan- tity	Value (\$1,000)
3313- -- 33121 pt.	Electrometallurgical products: Total all industries <sup>1</sup> .	Short tons (gross alloy wt.)...	(NA)						(NA)								
33121 pt.	Made in blast furnaces (Industry 3312).....	...do...	(NA)	423,322	(D)	(D)	(D)	(D)	(NA)	1,756,999	1,654,400	468,117	(D)	(D)	(D)		
3313- --	Made in electric and other furnaces (Industry 3313 and other industries) <sup>1</sup> .	...do...	642,917	565,440	(D)	(D)	(D)	(D)	77,457	605,901	504,800	94,040	(D)	(D)	71,884		
33132 11	Ferromanganese.....	...do...	(NA)	340,762	(D)	(D)	(D)	(D)	(NA)	1,151,098	1,149,600	374,077	1,064,772	84,828	(D)		
33133 11	Ferrosilicon.....	...do...	(NA)	85,313	(NA)	(NA)	72,416	12,897	(NA)								
33131 --	Other ferroalloys.....	...do...	438,359	417,873	381,828	71,198	36,045	7,624	(NA)	26,308							
33134 11	Silvery iron.....	...do...	(NA)	257,403	(D)	(D)	(D)	(D)	(D)								
33131 11	Ferromanganese.....	...do...	207,950	209,268	(D)	(D)	(D)	(D)	(D)								
33134 98	Other ferroalloys, includ- ing spiegeleisen.....	...do...	(NA)	241,435	(D)	(D)	(D)	(D)	(D)								
33130 00	Electrometallurgical products, not specified by kind.....	.....	(X)	1,774	(X)	1,774		-	(X)	(X)							

- Represents zero. (D) Data withheld to avoid disclosing figures of individual company operations. (NA) Not available. (X) Not applicable.

<sup>1</sup>Figures represent revisions to data previously published in the preliminary report in this series for Industry 3312 "Blast Furnaces and Steel Mills."

# 1963 CENSUS OF MANUFACTURES

MC63(P)-33A-3



INDUSTRY SERIES

preliminary  
report

## Steel wire drawing, etc.

SIC Code 3315

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Steel Wire Drawing Industry had total shipments valued at \$582 million, an increase of 29 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 11 percent from 1958 and 8 percent from 1962 to a total of 21 thousand employees in 1963. Value added by manufacture amounted to \$249 million in 1963, an increase of 27 percent from 1958 and 11 percent from 1962.

The Steel Wire Drawing Industry includes establishments engaged primarily in drawing wire from purchased iron or steel rods, bars, or wire and which may be engaged in the further manufacture of products made from wire; and those primarily engaged in manufacturing steel nails and spikes from purchased material.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent

Table 1.—GENERAL STATISTICS FOR THE STEEL WIRE DRAWING INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3315)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	198	132	21,356	134,518	16,993	34,371	97,091	249,300	329,384	581,704	14,052	(X)
1962.....	(NA)	(NA)	19,826	126,454	15,491	30,847	90,625	224,688	296,143	517,215	14,895	3
1961.....	(NA)	(NA)	19,801	121,928	15,483	30,720	87,270	221,342	282,990	500,339	12,438	2
1960.....	(NA)	(NA)	20,566	122,066	16,725	31,950	86,932	218,466	284,722	498,326	12,778	2
1959.....	(NA)	(NA)	20,969	124,953	16,770	32,616	90,079	234,353	304,202	536,165	11,295	1
1958.....	170	103	19,250	110,184	15,129	29,147	78,432	196,200	260,490	452,062	11,980	(X)

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that comparable data for prior years are not available.

June 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

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years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure

available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Steel Wire Drawing Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Steel Wire Drawing Industry amounted to \$582 million. Of this total, \$33 million were products primary to other industries; and \$26 million were receipts for miscellaneous activities. The industry shipments of primary products represented 94 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 88 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,657 million of steel wire and fabricated ferrous wire products were shipped by all producers of these products. Of this total, \$522 million, or 32 percent, were shipped by plants classified in Industry 3315, Steel Wire Drawing, while the remainder was shipped by plants classified in other industries, mainly Industries 3312 and 3481. The comparable percentage for 1958 was 26.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary

reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE STEEL WIRE DRAWING INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3315)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	198	132	21,356	134,518	16,993	34,371	97,091	249,300	329,384	581,704	14,052	19,250	196,200
New England.....	35	29	5,329	34,578	4,276	8,390	25,515	58,244	57,722	114,306	3,293	5,681	51,769
Massachusetts...	21	17	2,909	19,724	2,352	4,655	15,105	28,648	30,281	58,562	719	3,260	28,073
Middle Atlantic...	51	24	4,414	28,005	3,454	6,718	19,509	50,231	54,507	104,588	2,745	3,944	35,230
New York.....	19	7	951	5,151	804	1,662	3,845	7,979	10,587	18,427	(1)	431	3,328
North Central.....	63	47	8,722	55,571	6,901	14,300	39,944	107,654	159,099	269,649	5,035	8,620	97,318
Ohio.....	15	13	1,473	8,593	1,221	2,594	6,503	21,999	27,374	49,226	1,060	939	10,725
Illinois.....	32	22	4,864	30,064	3,885	7,905	21,911	45,353	91,277	140,341	2,139	4,362	45,951
South and West...	49	32	2,891	16,364	2,362	4,963	12,123	33,171	58,056	93,161	2,979	1,005	11,883

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF STEEL WIRE DRAWING SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Steel Wire Drawing Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3315- --	Steel wire drawing, total.....		(X)	1,656,658	(X)	1,490,977
33151 --	Noninsulated ferrous wire rope, cable, and strand:					
34811 --						
33151 --						
34811 --						
	Made in Industries 3312 and 3315.....		(X)	102,269	(X)	94,106
	Made in Industry 3481 and other industries.....		(X)	88,690	(X)	69,280
	Total for all industries.....		(X)	190,959	(X)	163,386
33151 11	Steel wire rope and cable.....	Short tons..	205,279	142,110	187,395	125,025
33151 21	Composite strand, ropes and cable, including wire strand of different metals, except ACSR.....	..do.....	71,033	27,952	8,321	6,155
33151 33	Steel wire strand, except wire strand for prestressed concrete, including guard rail cable.....	..do.....			(NA)	30,352
33151 35	Wire strand for prestressed concrete.....	..do.....	36,367	11,872		
33151 00	Noninsulated ferrous rope, cable, and strand, not specified by kind..		(X)	9,025	(X)	1,854
33152 --	Steel nails and spikes.....		(X)	150,439	(X)	159,363
	Steel wire nails, spikes and brads:					
33152 11	Bright.....	Short tons..	228,412	53,310	293,948	62,734
33152 13	Galvanized.....	..do.....	47,889	13,167	73,114	20,671
33152 17	Cement-coated.....	..do.....	45,053	10,360	65,431	14,359
33152 19	Other nails, spikes, etc.....	..do.....	30,759	11,480	28,423	9,643
33152 23	Steel wire staples:					
	Quantity reported.....	..do.....	39,357	23,645	44,741	17,419
	Quantity not reported.....	..do.....	(X)	12,978	(X)	3,433
33152 25	Steel tacks (wire and box).....	Short tons..	12,086	8,534	(NA)	8,846
33152 28	Track spikes.....	..do.....	30,797	6,615		
33152 32	Steel cut nails, spikes, and brads, including horseshoe nails but excluding track spikes.....	..do.....	10,779	6,506	87,889	17,613
33152 00	Steel nails and spikes, not specified by kind.....		(X)	3,844	(X)	4,645
	Steelwire: <sup>1</sup>					
	As reported on Annual Form MA-33B.....		(X)	587,786	(X)	556,712
33125 --	As reported in census of manufactures <sup>2</sup> .....		(X)	608,910	(X)	564,734
33155 --						
33155 01			(X)	361,918	(X)	350,175
33125 01			(X)	246,992	(X)	214,559
33156 --	Fencing and fence gates:					
34816 --						
33156 --						
34816 --						
	Made in Industries 3312 and 3315.....	Short tons..	206,320	52,540	199,609	48,045
	Made in fabricated wire products, n.e.c., (Industry 3481) and other industries.....		(X)	58,478	(X)	55,264
	Total for all industries.....		(X)	111,018	(X)	103,309
33156 13	Chain link fencing, excluding posts, gates, and fittings.....	Short tons..	107,401	33,536		
33156 35	Fence gates, posts, and fittings.....	..do.....	16,528	38,192	(NA)	56,277
33156 21	Wire fence, woven and welded.....	..do.....	140,119	33,029	(NA)	34,363
33156 71	Ornamental lawn fence.....	..do.....	11,003	3,452	19,754	5,695
34816 00	Fencing and fence gates, not specified by kind.....		(X)	2,809	(X)	6,974
33157 --	Wire cloth and other woven wire products:					
34814 --						
33157 --						
34814 --						
	Made in Industries 3312 and 3315.....		(X)	25,868	(X)	25,943
	Made in fabricated wire products, n.e.c., (Industry 3481) and other industries.....		(X)	46,149	(X)	62,494
	Total for all industries.....		(X)	72,017	(X)	88,437
33157 21	Insect wire screening, steel, including stainless steel.....	1,000 sq. ft.	161,933	7,454	217,660	9,791
33157 31	Hardware cloth.....	Short tons..	8,637	6,277	10,162	7,218
33157 61	Industrial wire cloth, steel.....	1,000 sq. ft.	49,129	23,713	48,508	24,675
33157 71	Woven wire netting (poultry, fur farm, stucco, etc.).....	Short tons..	42,242	13,617	52,189	16,460
33157 98	Other wire cloth and woven wire products, including diamond cloth, spiral cloth, drying belts, etc.....		(X)	19,747	(X)	16,679
33157 00	Wire cloth and woven wire products, not specified by kind.....		(X)	1,209	(X)	13,614
33159 --	Other fabricated ferrous wire products (except springs):					
34819 --						
33159 --						
34819 --						
	Made in Industries 3312 and 3315.....		(X)	189,777	(X)	143,168
	Made in Industry 3481 and other industries.....		(X)	311,363	(X)	262,488
	Total for all industries.....		(X)	501,140	(X)	405,656
33159 41	Wire chain, tire.....	Short tons..	19,659	13,980	28,844	20,141
33159 49	Wire chain, other.....	..do.....	57,085	42,219	47,944	34,553
33159 51	Barbed and twisted wire.....	..do.....	111,042	20,420	57,388	12,131
33159 55	Wire bale-ties.....	..do.....	87,300	17,447	71,260	15,682
	Welded steel wire fabric:					
33159 61	Concrete reinforcing mesh.....	..do.....	486,860	94,949	516,694	97,539
33159 65	Other welded steel wire fabric.....	..do.....	137,139	36,442	74,392	19,454
33159 71	Wire garment hangers.....	1,000 lbs..	161,381	25,686	146,672	19,517
33159 73	Wire carts, including household, grocery, and industrial.....		(X)	14,457		
33159 75	Steel wire cages.....		(X)	9,198		
33159 77	Paper clips.....				(X)	158,475
33159 98	Other wire products, including guards, baskets, florists' designs, kitchenware, etc.....		(X)	206,037		
33159 00	Other fabricated ferrous wire products (except springs), not specified by kind.....		(X)	20,305	(X)	28,164
33150 00	Steel wire drawing, not specified by kind.....		(X)	22,175	(X)	6,092

(NA) Not available. (X) Not applicable.

<sup>1</sup>Excludes shipments of steel processed on a conversion basis from nonsteel producing companies. Detailed data by shape and grade and net shipments figures appear in Current Industrial Reports, Series M33B "Steel Mill Products" for 1963.<sup>2</sup>Data reported in the census of manufactures differ from comparable figures reported in annual survey MA-33B chiefly due to companies not included in the annual survey. In addition there were minor differences between figures for a few companies reporting in the two surveys.



# 1963 CENSUS OF MANUFACTURES

MC63(P)-33A-4



INDUSTRY SERIES

preliminary  
report

## Cold finishing of steel shapes

SIC Code 3316

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Cold Finishing of Steel Shapes Industry shipped products valued at \$751 million, an increase of 57 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 25 percent from 1958 and 14 percent from 1962 to a total of 14 thousand employees in 1963. Value added by manufacture amounted to \$223 million in 1963, an

increase of 58 percent from 1958 and 15 percent from 1962.

The Cold Finishing of Steel Shapes Industry includes establishments engaged primarily in (1) cold rolling steel sheets and strip from purchased hot rolled sheets; (2) cold drawing steel bars and steel shapes from purchased hot rolled steel bars; and (3) producing other cold finished steel. Establishments primarily engaged in the production of steel, including hot rolled steel sheets, and further cold rolling such sheets are included in Industry 3312, Blast Furnaces and Steel Mills.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing

Table 1.—GENERAL STATISTICS FOR THE COLD FINISHING OF STEEL SHAPES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3316)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	80	68	13,684	99,454	10,611	21,808	71,458	222,953	529,807	751,328	14,923	(X)
1962.....	(NA)	(NA)	12,029	87,550	9,344	19,277	75,787	194,154	495,763	690,238	(13,988)	4
1961.....	(NA)	(NA)	11,393	79,582	8,808	17,688	58,414	158,079	439,845	597,614	12,754	3
1960.....	(NA)	(NA)	12,439	83,171	9,754	19,254	62,167	173,492	472,189	634,937	13,095	2
1959.....	(NA)	(NA)	12,058	82,176	9,387	18,616	58,567	191,192	451,646	645,646	10,211	1
1958.....	78	63	10,943	67,084	8,528	16,039	47,225	141,516	338,495	477,824	25,706	(X)
1954 <sup>3</sup> .....	75	(NA)	10,685	51,600	8,535	16,919	37,603	(NA)	(NA)	(NA)	7,498	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available for 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees is as follows: Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. Figures for production workers are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

#### VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Cold Finishing of Steel

Shapes Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Cold Finishing of Steel Shapes Industry amounted to \$751 million. Of this total, \$69 million were products primary to other industries; and \$36 million were receipts for miscellaneous activities. The industry shipments of primary products represented 90 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$3,338 million of cold finished steel shapes were shipped by all producers of these products. Of this total, \$647 million, or 19 percent, were shipped by plants classified in Industry 3316, Cold Finishing of Steel Shapes while the remainder was shipped by plants classified in other industries, mainly Industry 3312. The comparable percentage in 1958 was 18 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE COLD FINISHING OF STEEL SHAPES INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3316)

Geographic Area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	80	68	13,684	99,454	10,611	21,808	71,458	222,953	529,807	751,328	14,923	10,943	141,516
New England.....	15	15	3,476	22,658	2,642	5,401	16,248	49,135	74,415	126,023	2,906	1,689	20,973
Connecticut.....	8	8	2,600	17,383	1,936	3,934	12,289	38,182	57,731	99,463	(D)	1,082	114,745
Middle Atlantic...	21	20	4,020	30,077	3,207	6,683	21,842	78,656	115,577	192,631	2,562	31,082	44,351
Pennsylvania....	13	13	2,193	15,601	1,717	3,443	11,130	32,427	70,543	102,454	936	2,061	24,540
East North Central	29	25	5,631	42,850	4,397	8,897	30,801	87,535	321,386	305,426	8,740	4,880	69,762
Ohio.....	8	7	2,171	15,767	1,678	3,282	11,632	27,568	68,413	95,798	1,025	2,103	22,155
Indiana.....	6	4	992	7,624	742	1,599	5,474	17,669	53,742	71,753	(D)	956	13,648
South and West....	15	8	557	3,869	415	827	2,567	7,627	19,529	27,248	715	692	6,430

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

D Withheld to avoid disclosing figures for individual companies.



Table 3.—QUANTITY AND VALUE OF COLD FINISHING OF STEEL SHAPES BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product	1963						1958				
		Receipts <sup>1</sup> (short tons)	Production (short tons)	Products consumed in producing plants (short tons)		As main-tenance repair, and operating supplies	Shipments <sup>1</sup>		Total shipments including interplant transfers <sup>1</sup>			
				In the manufacture of--			To other companies			Transfers to other plants of the same company		
				Other basic steel shapes and forms	Fabricated products		Quantity (short tons)	Value f.o.b. plant (\$1,000)			Quantity (short tons)	Value f.o.b. plant (\$1,000)
3316--	Cold-finishing of steel shapes.....	(X)	(X)	(X)	(X)	3,337,558					(X)	2,430,547
33127--	Cold-rolled steel sheet and strip:											
33167--	As reported in census of manufactures....	(X)	(X)	(X)	(X)	2,866,210	(X)	(X)	(X)	(X)		2,091,623
33127--	Made in steel works (Industry 3312)....	(X)	(X)	(X)	(X)	2,463,865					(X)	1,838,390
33167--	Made in cold-rolling mills (Industry 3316) and other industries.....	(X)	(X)	(X)	(X)	402,345					(X)	253,233
	As reported on Form MA-33B.....	(D)	17,312,236	(D)	(D)	2,781,560	14,649,592	2,489,493	1,957,326	292,067	12,490,024	2,064,070
	Detailed data by grade and shape from MA-33B:											
	Carbon steel:											
33167 11	Cold-rolled sheet.....	947,800	15,480,678	1,135,601	142,380	2,081,456	13,113,629	1,838,584	1,829,365	242,872	11,318,684	1,539,307
33167 15	Cold-rolled strip.....	242,997	1,338,479	232,160	147,439	273,672	1,088,988	250,833	98,752	22,839	824,658	187,256
	Alloy steel:											
33167 31	Cold-rolled sheet.....	(D)	77,401	(D)	(D)	14,951	64,120	14,918	95	33	56,254	15,867
33167 35	Cold-rolled strip.....	(D)	25,117	(D)	(D)	22,857	21,412	20,948	2,671	1,909	13,203	11,436
	Stainless steel:											
33167 55	Cold-rolled strip.....	(D)	238,483	30,942	(D)	233,890	213,531	212,439	22,741	21,451	97,722	121,382
33167 51	Cold-rolled sheet.....	2,901	152,078	2,731	208	154,734	147,912	151,771	3,702	2,963	179,503	188,822
	Cold-finished steel bars (except concrete reinforcing):											
33128--	As reported in census of manufactures....	(X)	(X)	(X)	(X)	471,348						338,924
33168--	Made in steel works (Industry 3312)....	(X)	(X)	(X)	(X)	204,933	(X)	(X)	(X)	(X)		130,623
33168--	Made in cold-finishing mills (Industry 3316) and other industries.....	(X)	(X)	(X)	(X)	266,415						208,301
	As reported on Form MA-33B <sup>2</sup> .....	(D)	1,606,578	(D)	(D)	476,066	1,551,670	458,704	61,498	17,362	1,148,151	331,530
	Detailed data by grade and shape from MA-33B:											
33168 11	Carbon steel cold-finished bar <sup>2</sup> .....	21,647	1,316,806	8,801	1,218	302,077	1,288,998	294,103	37,582	7,974	942,442	210,942
33168 31	Alloy steel cold-finished bar.....	(D)	214,212	(D)	(D)	74,208	189,956	66,352	22,615	7,856	158,763	58,941
33168 51	Stainless steel cold-finished bar.....	1,655	75,560	(D)	-	99,781	72,716	98,249	1,301	1,532	46,946	61,647
33160 00	Cold-rolled sheet, strip, and bars, not specified by kind.....	(X)	(X)	(X)	(X)	4,634	(X)	(X)	(X)	(X)	(X)	-

- Represents zero. (D) Withheld to avoid disclosing figures for individual companies. (X) Not applicable. <sup>2</sup>Revised.

<sup>1</sup>Excludes receipts and shipments of steel processed on a conversion basis for nonsteel companies.

<sup>2</sup>The net shipments figure for carbon steel cold-finished bar as published in Current Industrial Reports, Series M33B for 1963 has been revised to 1,307,933 short tons.

# 1963 CENSUS OF MANUFACTURES

MC63(P)-33A-5



## INDUSTRY SERIES

**preliminary  
report**

### Steel pipe and tube

SIC Code 3317

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Steel Pipe and Tube Industry shipped products valued at \$771 million, a decrease of 1 percent from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 9 percent from 1958 to a total of 22 thousand employees in 1963. Value added by manufacture amounted to \$274 million in 1963, a decrease of 3 percent from 1958.

The Steel Pipe and Tube Industry includes establishments engaged primarily in the manufacture of welded or seamless steel pipe and tube and heavy riveted steel pipe from purchased materials. Establishments primarily engaged in the manufacture of steel skelp, steel blanks, tube rounds, or pierced billets are classified in Industry 3312. Establishments producing welded or seamless steel pipe and tube and heavy-riveted steel pipe from material produced in the same establishment are also classified in Industry 3312.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.—GENERAL STATISTICS FOR THE STEEL PIPE AND TUBE INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3317)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	140	113	21,839	146,450	17,400	36,183	107,988	274,485	495,851	770,679	21,861
1958.....	136	101	23,911	138,144	19,402	37,988	103,848	284,096	496,141	780,684	15,133
1954 <sup>3</sup> .....	88	69	22,085	108,374	18,388	37,473	83,472	207,643	330,309	535,772	9,134
1947.....	52	(NA)	15,711	52,651	13,517	(NA)	41,225	100,356	143,858	244,214	(NA)
1939 <sup>3</sup> .....	49	(NA)	9,670	15,794	8,370	(NA)	12,306	34,008	41,857	75,865	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees is as follows: for 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954, 1958 and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure

available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Steel Pipe and Tube Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries) and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Steel Pipe and Tube Industry amounted to \$771 million. Of this total, \$71 million were products primary to other industries; and \$28 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 92 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,868 million of steel pipe and tube were shipped by all producers of these products. Of this total, \$672 million, or 36 percent, were shipped by plants classified in Industry 3317, Steel Pipe and Tube while the remainder was shipped by plants classified in other industries, mainly Industry 3312. The comparable percentage for 1958 was 40 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965



through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE STEEL PIPE AND TUBE INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3317)													
Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	140	113	21,839	146,450	17,400	36,183	107,988	274,485	495,851	770,679	21,861	23,911	284,096
Northeast.....	47	39	7,897	51,542	6,265	12,927	38,548	100,687	156,002	252,173	8,849	9,438	103,240
Pennsylvania....	27	25	6,628	44,223	5,336	11,132	33,926	85,085	134,925	216,618	8,118	7,992	86,355
North Central.....	51	42	9,695	67,981	7,800	16,375	50,503	123,290	226,133	352,021	8,878	9,039	109,922
Ohio.....	16	15	4,397	31,128	3,614	7,580	23,781	53,191	116,213	168,755	3,754	4,019	45,790
Illinois.....	12	9	848	5,961	689	1,326	4,049	11,245	21,635	32,754	2,410	751	7,358
Michigan.....	13	10	2,367	17,359	1,876	4,096	12,711	34,609	40,604	75,420	1,188	2,065	26,477
South.....	18	16	2,165	12,311	1,704	3,550	8,312	29,750	57,131	87,275	1,473	2,670	38,992
Texas.....	7	6	1,062	6,775	793	1,578	4,283	16,630	37,176	53,982	1,116	1,843	30,892
West.....	24	16	2,082	14,616	1,631	3,331	10,625	20,758	56,585	79,210	2,661	2,764	31,942

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—QUANTITY AND VALUE OF STEEL PIPE AND TUBE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product	1963										1958		
		Receipts <sup>1</sup>  (short tons)	Production  (short tons)	Products consumed in producing plants (short tons)			Shipments <sup>1</sup>					Total shipments and interplant transfers <sup>1</sup>		
				In the manufacture of --		As maintenance repair, and operating supplies	Total		To other companies		Transfers to other plants of the same company			
				Other basic steel shapes and forms	Fabricated products		Quantity (short tons)	Value f.o.b. plant (\$1,000)	Quantity (short tons)	Value f.o.b. plant (\$1,000)			Quantity (short tons)	Value
3317- --	Welded and heavy-riveted steel pipe:													
	As reported in census of manufactures, total <sup>2</sup> .....	(X)	(X)	(X)	(X)	(X)	(X)	1,868,466	{	(X)	(X)	{	1,723,643	
33126 --	Made in steelworks (Industry 3312).....	(X)	(X)	(X)	(X)	(X)	(X)	1,149,802		(X)	(X)		(X)	993,340
33176 --	Made in steel pipe and tube (Industry 3317) and other industries.....	(X)	(X)	(X)	(X)	(X)	(X)	718,664		(X)	(X)		(X)	730,303
	As reported on Annual Form MA-33B <sup>3</sup> .....	(D)	7,735,663	(D)	(D)	(D)	7,647,098	1,797,047	7,220,892	1,655,511	426,206	7,129,846	1,670,077	
	Detailed data by grade and shape from MA-33B:													
33176 11	Carbon steel pipes and tubes:	133,216	2,339,441	40,434	43,701	17,277	2,341,775	422,622	2,253,125	407,318	88,650	15,304	2,220,801	418,680
33176 12	Standard pipe.....	6,168	1,923,580	2,615	(D)	(D)	1,930,049	334,640	1,901,901	330,192	28,148	4,448	2,392,996	438,249
33176 13	Line pipe.....	5,721	1,222,903	(D)	(D)	102	1,176,125	252,467	1,342,978	280,339	71,734	21,472	896,942	189,994
33176 19	Oil country goods <sup>3</sup> .....	(D)	244,478	(D)	(D)	77	238,587	49,344	188,295	80,691	33,941	12,555	266,405	62,287
33176 14	Miscellaneous <sup>3</sup> .....	10,349	229,287	8,966	(D)	(D)	222,236	93,246	866,357	248,776	12,559	3,436	219,584	84,443
33176 15	Pressure tubing <sup>3</sup> .....	44,039	905,927	32,251	37,586	123	878,916	252,212					630,048	189,041
	Mechanical tubing <sup>3</sup> .....													
33176 32	Alloy steel pipes and tubes:	(D)	121,679	(D)	(D)	(D)	114,648	24,034	114,648	24,034	-	-		
33176 33	Line pipe.....	1,316	307,519	(D)	(D)	(D)	300,621	81,013						
33176 34	Oil country goods.....	185	38,370	(D)	3	(D)	38,470	22,983	521,697	192,168	189,267	80,616	473,879	190,690
33176 35	Pressure tubing.....	(D)	357,274	48,280	(D)	(D)	360,880	164,280						
33176 31,39	Mechanical tubing.....	5,768	11,608	(D)	(D)	(D)	10,993	4,508						
	Standard and miscellaneous.....													
33176 54	Stainless steel pipes and tubes:	144	20,433	(D)	30	(D)	20,523	48,228	19,206	45,895	1,317	2,333	18,333	52,949
33176 55	Pressure tubing.....	1,890	13,164	1,501	(D)	(D)	13,275	47,470	12,685	46,098	590	1,372	10,858	43,744
	Mechanical tubing.....													

<sup>1</sup> Represents zero. (D) Withheld to avoid disclosing figures for individual companies. (X) Not applicable. <sup>2</sup> Revised.

<sup>3</sup> Excludes receipts and shipments of steel processed on a conversion basis for nonsteel producing companies.

<sup>4</sup> Data reported in the census of manufactures differ from comparable figures reported in Annual Survey MA-33B chiefly due to companies not included in the annual survey. In addition, there were minor differences between figures for a few companies reporting in the two surveys.

<sup>5</sup> 1963 data for these products are revised from data published in Current Industrial Reports, Series MA-33B. The corrected net shipments figures (short tons) for carbon steel pipe and tubes are as follows:

Standard pipe	2,269,537
Line pipe	1,925,468
Oil country goods	1,170,506
Miscellaneous pipe	236,374
Pressure tubing	216,907
Mechanical tubing	872,586

# 1963 CENSUS OF MANUFACTURES

MC63(P)-33B-1



INDUSTRY SERIES

preliminary  
report

## Gray iron foundries

SIC Code 3321

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in Gray Iron Foundries had total shipments valued at \$1,977 million, an increase of 38 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 7 percent from 1958 and 1 percent from 1962 to a total of 120 thousand employees in 1963. Value added by manufacture amounted to \$1,162 million in 1963, an increase of 43 percent from 1958 and 8 percent from 1962.

The Gray Iron Foundries include establishments engaged primarily in the manufacture of gray iron castings, including cast iron pressure and soil pipe and fittings.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR GRAY IRON FOUNDRIES IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3321)

Year	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,140	767	120,430	730,084	104,244	214,184	594,879	1,161,704	813,243	1,976,727	65,036	(X)
1962.....	(NA)	(NA)	119,234	675,413	102,822	204,064	543,179	1,076,146	767,918	1,836,197	60,498	3
1961.....	(NA)	(NA)	113,685	602,316	97,468	183,888	481,672	923,970	702,260	1,622,700	52,307	3
1960.....	(NA)	(NA)	121,516	627,498	104,330	199,652	503,590	968,427	751,840	1,718,773	53,202	2
1959.....	(NA)	(NA)	125,862	644,417	109,132	217,159	525,482	1,002,896	806,515	1,803,001	34,072	1
1958.....	1,310	848	112,670	531,152	96,414	178,006	418,935	810,758	622,696	1,434,701	32,559	(X)
1954.....	1,414	940	133,914	557,535	118,288	230,234	459,049	847,436	592,835	1,441,880	49,939	(X)
1947.....	1,655	(NA)	173,813	512,245	157,395	328,537	441,716	732,807	440,232	1,173,039	(NA)	(X)
1939.....	1,254	(NA)	(NA)	(NA)	75,680	(NA)	89,047	169,278	108,564	277,842	(NA)	(X)

(NA) Not available. (X) Not applicable. <sup>1</sup>Revised.

<sup>2</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>3</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>4</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified as Gray Iron Foundries consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified as Gray Iron Foundries amounted to \$1,977 million. Of this total, \$151 million were products primary to other industries; and \$56 million were receipts for miscellaneous activities. The industry shipments of primary products represented 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$2,017 million of gray iron castings were shipped by all producers of these products. Of this total, \$1,770 million, or 88 percent, were shipped by plants classified in Industry 3321, Gray Iron Foundries, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 87.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

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trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE GRAY IRON FOUNDRIES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3321)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,140	767	120,430	730,084	104,244	214,184	594,879	1,161,704	813,243	1,976,727	65,036	112,670	810,758
New England.....	90	58	4,915	27,322	4,355	9,878	22,615	41,229	21,822	62,398	2,023	4,740	28,237
Massachusetts..	47	30	2,714	14,794	2,481	5,990	12,812	23,598	10,274	33,275	956	2,740	18,142
Rhode Island....	10	6	316	1,488	279	557	1,246	1,968	1,421	3,392	(1)	342	1,388
Connecticut.....	19	14	1,494	9,273	1,253	2,682	7,138	12,872	8,577	21,364	737	1,272	6,928
Middle Atlantic..	200	137	14,901	84,615	12,869	25,213	68,481	141,901	101,624	243,656	8,692	17,965	117,001
New York.....	50	32	3,098	17,224	2,717	5,543	14,216	26,182	15,126	41,118	1,609	3,897	22,627
New Jersey.....	36	26	4,075	23,755	3,386	6,669	18,748	41,454	31,826	73,944	3,946	5,130	40,665
Pennsylvania....	114	79	7,728	43,636	6,766	13,001	35,517	74,265	54,672	128,594	3,137	8,938	53,709
East North													
Central.....	402	309	62,206	417,270	53,198	111,181	338,587	649,641	422,139	1,067,245	37,463	54,498	401,099
Ohio.....	114	86	16,695	114,291	14,190	29,686	91,428	193,003	131,995	323,657	8,989	16,201	134,681
Indiana.....	64	46	7,624	48,414	6,580	13,905	39,495	70,414	39,959	109,869	5,358	6,636	45,529
Illinois.....	76	59	6,972	39,514	6,014	11,175	31,404	56,320	50,078	105,827	3,171	6,350	39,732
Michigan.....	92	78	22,564	164,437	19,811	43,138	138,757	261,702	163,371	424,900	16,072	19,391	145,475
Wisconsin.....	56	40	8,351	50,614	6,603	13,277	37,503	68,190	36,736	102,992	3,873	5,920	35,682
West North													
Central.....	101	56	5,540	29,703	4,868	9,466	24,715	45,925	29,687	74,740	2,396	5,283	34,980
Minnesota.....	27	13	799	4,624	722	1,429	4,028	8,278	4,985	13,266	(1)	915	7,177
Iowa.....	26	16	1,624	8,523	1,392	2,689	6,906	13,658	10,304	23,526	1,186	1,189	6,757
Missouri.....	26	16	2,279	12,619	2,022	3,855	10,709	17,652	11,099	28,360	717	2,370	14,605
South Atlantic..	93	50	7,197	36,289	6,366	13,369	29,981	65,386	44,816	109,837	4,613	6,426	45,181
Maryland.....	8	7	756	3,858	657	1,423	3,021	5,323	3,983	9,346	(D)	771	5,162
Virginia.....	25	16	3,222	18,224	2,784	6,317	14,960	32,234	25,265	57,261	(D)	2,863	18,764
North Carolina..	22	9	1,236	5,540	1,143	2,236	4,766	10,214	7,750	18,017	(1)	1,315	7,293
Georgia.....	13	6	485	2,015	424	846	1,630	2,384	1,367	3,751	(1)	512	1,826
Florida.....	12	3	396	1,619	352	665	1,236	2,523	1,451	3,868	(1)	352	1,983
East South													
Central.....	78	63	14,458	75,922	12,763	25,513	62,699	110,408	124,290	243,157	5,042	13,034	99,273
West South													
Central.....	59	31	4,969	21,910	4,409	8,708	17,955	37,968	26,944	64,673	2,370	4,170	28,754
Texas.....	35	18	4,142	18,416	3,678	7,281	15,170	32,475	24,134	56,451	2,032	3,625	25,687
Mountain.....	17	11	1,148	6,653	987	1,899	5,121	15,093	10,758	26,008	(D)	1,251	13,877
Pacific.....	100	52	5,096	30,400	4,429	8,957	24,725	54,153	31,163	85,013	(D)	5,303	42,356
California.....	71	43	4,253	25,490	3,690	7,524	20,621	46,405	27,959	74,141	1,330	4,479	35,423

(D) Withheld to avoid disclosing figures for individual companies.

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF GRAY IRON CASTINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified as Gray Iron Foundries but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963						1958					
		Total shipments including interplant transfers		Shipments to other companies		Transfers to other plants of the same company		Total shipments including interplant transfers		Shipments to other companies		Transfers to other plants of the same company	
		Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)
3321- --	Gray iron castings, total <sup>1</sup> .....	(X)	2,017,061	(X)	(NA)	(X)	(NA)	(X)	1,527,888	(X)	(NA)	(X)	(NA)
33211 11	Molds and stools for heavy steel ingots.....	1,959,325	179,311	1,198,952	109,692	760,373	69,619	1,509,368	147,705	959,038	97,295	550,330	50,410
33212 --	Cast iron pressure pipe and fittings.....	1,750,627	230,651	2,175,627	223,651	(2)	(2)	1,327,165	196,146	2,132,765	219,614	(2)	(2)
33212 21	6" and under (inside diameter).....	594,446	80,324	2,594,446	280,324	(2)	(2)						
33212 23	Over 6" up to and including 8" (inside diameter).....	408,894	54,843	2,408,894	254,843	(2)	(2)	1,105,508	165,703	2,110,508	216,570	(2)	(2)
33212 25	Over 8" up to but not including 14" (inside diameter).....	449,368	56,188	2,449,368	256,188	(2)	(2)	192,980	26,364	2192,980	226,364	(2)	(2)
33212 31	14"-24" inclusive (inside diameter).....	297,919	39,296	2,297,919	239,296	(2)	(2)	28,677	4,079	228,677	24,079	(2)	(2)
33212 51	Over 24" (inside diameter).....					(2)	(2)					(2)	(2)
33213 --	Cast iron soil pipe and fittings.....	953,126	152,078	2,953,126	2152,078	(2)	(2)	757,293	119,768	2,757,293	2119,768	(2)	(2)
33213 21	Cast iron soil pipe and fittings, including special fittings:												
33213 31	Up to 3" (inside diameter).....	234,339	42,294	2,234,339	242,294	(2)	(2)					(2)	(2)
33213 41	Over 3" up to but not including 5" (inside diameter).....	564,345	84,010	2,564,345	284,010	(2)	(2)	757,293	119,768	2,757,293	2119,768	(2)	(2)
33214 --	All other gray iron castings.....	5,004,096	1,412,367	3,266,925	960,918	1,737,171	451,449	3,887,194	995,119	2,504,642	661,455	1,382,552	333,664
33214 31	Rolls for rolling mills.....	102,907	61,996	84,433	32,669	18,414	9,527	67,043	38,130	67,043	38,130	(X)	(X)
33214 98	All other gray iron castings.....	4,901,189	1,350,371	3,182,432	908,249	1,718,757	442,122	3,820,151	956,989	2,437,599	623,325	1,382,552	333,664
33210 00	Gray iron castings, not specified by kind.....	(X)	42,654	(X)	42,654	(X)	-	(X)	69,150	(X)	69,150	(X)	-

<sup>1</sup>Represents zero. (NA) Not available. (X) Not applicable.<sup>2</sup>Differs from the figures published in Current Industrial Reports Series M33-1, "Iron and Steel Castings," in that no figures are included above for castings produced by captive foundry departments of plants classified in other industries. As shown in the Current Industrial Reports, captive production ("for own use"), including both interplant transfers and castings produced and consumed by the same plant for 1963, totaled 5,674 thousand tons. Of this total, only 2,497 thousand tons of transfers to other plants of the same company are included above. The difference between tonnages shown above for "shipments to other companies" and the "for sale" figures in Series M33-1 are due to differences in classification in the census and monthly survey with regard to such products as machinery parts, etc., and fiscal year reports in the Census.<sup>3</sup>Figures for transfers to other plants of the same company are included with "shipments to other companies" to avoid disclosing operations of individual companies.U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

OFFICIAL BUSINESS

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# 1963 CENSUS OF MANUFACTURES

MC33(P)-33B-2



INDUSTRY SERIES

preliminary  
report

## Malleable iron foundries

SIC Code 3322

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Malleable Iron Foundries Industry had total shipments valued at \$321 million, an increase of 50 percent over 1958, according to preliminary results obtained from the 1963 census and an increase of 5 percent from 1962. Average employment in this industry showed an increase of 12 percent from 1958 to a total of 23 thousand employees in 1963. Value added by manufacture amounted to \$205 million in 1963, an increase of 61 percent from 1958 and 5 percent from 1962.

The Malleable Iron Foundries Industry includes establishments engaged primarily in the manufacture of malleable iron castings.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE MALLEABLE IRON FOUNDRIES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3322)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	83	73	22,654	143,656	19,158	39,447	114,075	204,983	115,360	321,430	16,366	(X)
1962.....	(NA)	(NA)	22,639	136,938	19,136	38,250	108,695	196,005	109,643	304,688	9,017	3
1961 <sup>2</sup> .....	(NA)	(NA)	20,821	118,118	17,296	33,687	91,934	164,484	93,163	256,955	9,801	2
1960 <sup>2</sup> .....	(NA)	(NA)	23,537	125,602	19,661	37,211	98,092	170,320	106,983	279,884	12,850	2
1959 <sup>2</sup> .....	(NA)	(NA)	24,266	134,962	20,800	42,362	108,178	189,099	113,799	299,591	9,601	1
1958.....	82	74	20,230	100,579	16,694	31,366	77,148	127,592	86,790	214,537	4,438	(X)
1954 <sup>3</sup> .....	81	77	23,378	96,888	20,205	38,306	78,004	133,262	78,064	213,321	9,966	(X)
1947 <sup>3</sup> .....	78	(NA)	29,862	90,811	26,659	54,650	76,750	121,661	62,739	184,400	(NA)	(X)
1939 <sup>3</sup> .....	83	(NA)	20,186	26,415	18,041	(NA)	21,556	35,500	17,951	53,451	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

June 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Malleable Iron Foundries Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Malleable Iron Foundries Industry amounted to \$321 million. Of this total, \$53 million were products primary to other industries; and \$3 million were receipts for miscellaneous activities. The industry shipments of primary products represent 83 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 86 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$312 million of malleable iron castings were shipped by all producers of these products. Of this total, \$265 million, or 85 percent, were shipped by plants classified in Industry 3322, Malleable Iron Foundries, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 90 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in



## 1963 CENSUS OF MANUFACTURES

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1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5

years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE MALLEABLE IRON FOUNDRIES INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3322)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	83	73	22,654	143,656	19,158	39,447	114,075	204,983	115,360	321,430	16,366	20,230	127,592
New England.....	6	6	824	4,153	698	1,284	3,162	6,192	3,102	9,228	( <sup>1</sup> )	881	5,056
Middle Atlantic...	20	17	3,714	20,108	3,200	6,026	16,233	28,212	14,214	41,966	1,748	3,133	19,363
Pennsylvania.....	12	10	2,418	12,952	2,076	3,918	10,384	18,484	9,449	27,813	1,557	1,958	12,637
East North Central	43	41	16,754	111,748	14,132	29,890	88,968	159,628	93,070	254,313	13,736	14,772	94,392
Ohio.....	14	12	3,858	24,812	3,348	6,985	20,968	29,916	18,699	50,085	1,394	3,194	19,835
Illinois.....	9	9	4,289	30,590	3,638	7,836	24,451	41,523	27,818	69,599	4,880	4,663	31,300
Michigan.....	6	6	5,438	38,771	4,428	9,611	29,245	62,428	34,692	96,964	6,465	4,110	28,005
Wisconsin.....	10	10	2,191	12,919	1,889	3,864	10,522	19,282	8,319	27,499	775	1,412	9,345
All other divisions.....	14	9	1,362	7,647	1,128	2,247	5,712	10,951	4,974	15,923	562	1,444	8,781

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF MALLEABLE IRON CASTINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Malleable Iron Foundries Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including inter-plant transfers		Shipments to other companies		Transfers to other plants of the same company	
		Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)
1963							
3322- --	Malleable iron castings, total <sup>1</sup> .....	(X)	312,052	(X)	210,456	340,246	101,596
33220 21	Standard.....	629,350	232,594	529,945	209,404	340,246	101,596
33220 31	Pearlitic.....	240,841	78,406				
33220 00	Malleable iron castings, not specified by kind.....	(X)	1,052	(X)	1,052	-	-
1958							
3322- --	Malleable iron castings, total.....	(X)	203,310	(X)	146,663	191,897	56,647
33220 21	Standard.....	464,032	164,652	319,022	120,648	145,010	44,004
33220 31	Pearlitic.....	117,058	36,190	70,168	23,547	46,887	12,643
33220 00	Malleable iron castings, not specified by kind.....	(X)	2,468	(X)	2,468	-	-

- Represents zero. (X) Not applicable.

<sup>1</sup>Differs from the figures published in Current Industrial Reports Series M33-1 "Iron and Steel Castings" in that no figures are included above for castings produced by captive foundry departments of plants classified in other industries. As shown in the Current Industrial Reports, captive production ("for own use"), including both interplant transfers and castings produced and consumed by the same plant for 1963, totaled 410 thousand tons. Of this total only 340 thousand tons of transfers to other plants of the same company are included above.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-33B-3



INDUSTRY SERIES

preliminary  
report

## Steel foundries

SIC Code 3323

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Steel Foundries Industry shipped products and had miscellaneous receipts valued at \$861 million, an increase of 44 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 15 percent from 1958 and 12 percent from 1962 to a total of 57 thousand employees in 1963. Value added by manufacture amounted to \$578 million in 1963, an increase of 50 percent from 1958 and 19 percent from 1962.

The Steel Foundries Industry includes establishments engaged primarily in the manufacture of steel castings.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included in this report.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing

Table 1.—GENERAL STATISTICS FOR THE STEEL FOUNDRIES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3323)

Year	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	266	219	56,700	360,591	47,546	94,927	278,785	578,322	287,377	861,022	27,692	(X)
1962.....	(NA)	(NA)	50,506	303,200	45,204	83,773	235,983	484,252	249,680	729,688	23,569	3
1961.....	(NA)	(NA)	46,810	269,854	41,652	74,414	204,411	410,809	225,048	629,645	22,859	2
1960.....	(NA)	(NA)	50,807	288,073	45,223	81,816	219,753	439,099	248,710	700,488	19,221	2
1959.....	(NA)	(NA)	54,029	300,950	51,544	89,000	231,383	489,244	256,734	739,173	25,258	1
1958.....	256	216	49,133	254,338	40,134	74,390	186,778	383,870	203,683	596,276	22,239	(X)
1954 <sup>3</sup> .....	239	203	55,073	241,305	45,655	85,684	179,361	346,706	181,261	539,784	16,426	(X)
1947 <sup>3</sup> .....	203	(NA)	62,335	186,661	54,207	107,755	151,036	262,935	140,240	403,175	(NA)	(X)
1939 <sup>3</sup> .....	164	(NA)	35,567	55,415	30,088	(NA)	41,942	90,234	45,232	135,466	(NA)	(X)

- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1959 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees is as follows: Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. Production workers are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

#### VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Steel Foundries Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Steel Foundries Industry amounted to \$861 million. Of this total, \$118 million were products primary to other industries; and \$15 million were receipts for miscellaneous activities. The industry shipments of primary products represented 86 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 86 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly

distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$822 million of steel castings were shipped by all producers of these products. Of this total, \$727 million, or 89 percent, were shipped by plants classified in Industry 3323, Steel Foundries while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 86 percent.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in



## 1963 CENSUS OF MANUFACTURES

3

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted

every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE STEEL FOUNDRIES INDUSTRY BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3323)													
Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	266	219	56,700	360,591	47,546	94,927	278,785	578,322	287,377	861,022	27,692	49,133	383,870
New England.....	11	9	1,096	6,145	846	1,841	4,237	10,133	4,292	14,554	(1)	1,452	10,417
Connecticut.....	6	5	501	2,802	416	896	2,190	4,701	2,154	6,874	(1)	344	2,755
Middle Atlantic...	56	48	15,751	103,891	13,149	26,031	81,245	156,088	85,942	241,501	4,140	14,238	112,007
Pennsylvania....	38	33	11,817	78,189	9,909	19,446	61,294	109,630	66,079	175,047	3,086	10,854	83,025
East North Central	96	75	26,039	172,184	21,788	43,696	131,009	284,554	130,693	411,382	19,104	20,985	170,002
Ohio.....	29	26	8,527	55,443	7,145	14,552	42,397	98,348	45,581	141,717	10,044	6,242	48,509
Indiana.....	6	5	4,118	27,633	3,715	7,677	23,909	40,339	19,831	60,339	1,354	3,574	36,783
Illinois.....	23	18	7,026	46,689	5,751	10,875	33,514	79,721	33,323	111,848	4,124	5,344	39,207
Michigan.....	21	12	2,250	14,855	1,807	3,629	10,266	24,233	13,198	37,098	1,307	2,222	14,946
Wisconsin.....	17	14	4,118	27,564	3,370	6,963	20,923	41,913	18,760	60,380	2,275	3,603	30,557
West North Central	16	15	3,823	22,997	3,267	6,667	18,579	38,828	19,491	57,865	1,064	3,450	26,001
East South Central	6	6	1,007	4,791	884	1,649	3,844	8,032	4,449	12,409	(1)	866	5,065
All other divisions.....	81	66	8,984	50,583	7,612	15,043	39,821	80,687	42,510	123,311	2,705	8,142	60,377
Washington.....	11	9	618	4,079	513	994	3,124	5,951	3,368	9,273	(1)	488	3,749
Oregon.....	6	6	1,184	7,558	987	1,974	6,298	12,353	7,370	19,763	(1)	1,058	9,463

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF STEEL CASTINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Steel Foundries Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963						1958					
		Total shipments including inter-plant transfers		Shipments to other companies		Transfers to other plants of the same company		Total shipments including inter-plant transfers		Shipments to other companies		Transfers to other plants of the same company	
		Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)
3323- --	Steel castings, <sup>1</sup> total.....	(X)	821,765	(X)	759,073	96,334	52,692	(X)	587,931	(X)	547,151	46,900	40,780
33230 12	Carbon steel castings:												
	Cast steel railroad car wheels.....	253,199	64,716	253,199	64,716	-	-	-	-	-	-	-	-
33230 13	Railway specialties (except cast railroad car wheels)....	188,956	76,753	182,058	73,652	6,898	3,101	206,976	66,120	203,309	64,491	3,667	1,629
33230 15	Rolls for rolling mills.....	26,392	14,760	25,352	14,419	1,040	341	10,941	5,903	10,634	5,749	307	154
33230 19	Other carbon steel castings...	485,509	291,693	434,937	268,419	50,572	23,274	401,482	234,311	372,243	216,887	29,239	17,424
33230 21	High manganese steel castings...	63,949	47,358	61,957	46,020	1,992	1,338	49,127	36,079	47,018	34,886	2,109	1,193
33230 31	High alloy steel castings <sup>2</sup> ....	38,436	75,993	33,708	67,236	4,728	8,757	31,332	66,783	27,242	59,784	4,090	6,999
	Alloy steel castings (except high alloy steel castings):												
	Railway specialties.....	62,168	30,385	62,168	30,385	( <sup>3</sup> )	( <sup>3</sup> )	17,956	8,653	16,983	8,232	613	421
33230 51	Rolls for rolling mills.....	52,055	30,900	40,252	24,478	11,803	6,422	49,853	26,833	43,872	23,670	5,981	3,163
33230 59	Other alloy steel castings....	161,707	118,008	143,272	101,900	18,435	16,108	147,555	103,666	136,738	94,250	10,817	9,416
33230 61	Investment castings (steel).....	3,430	62,023	3,430	62,023	( <sup>3</sup> )	( <sup>3</sup> )	2,887	30,754	2,810	30,373	77	381
33230 00	Steel castings, not specified by kind.....	(X)	8,976	(X)	8,976	(X)	-	(X)	8,829	(X)	8,829	(X)	-

(X) Not applicable. - Represents zero.

<sup>1</sup>Differs from the tonnage figures published in Current Industrial Reports Series M33-1 "Iron and Steel Castings" in that no figures are included above for castings produced by captive foundry departments of plants classified in other industries. As shown in the Current Industrial Report captive production ("for own use") including both interplant transfers and castings produced and consumed by the same plant for 1963 totaled 307 thousand tons of steel castings. Of this total only 96 thousand tons of transfers to other plants of the same company are included above. The differences between the tonnages shown above for "shipments to other companies" and the "for sale" figures in series M33-1 are due to differences in classification in the census and monthly survey with regard to such products as machinery parts, etc. fiscal year reports in the census as well as certain revisions of the monthly data reported in the census.

<sup>2</sup>Heat and/or corrosion-resistant steel castings containing 8 percent more of chromium or nickel, or both, with or without molybdenum or other elements.

<sup>3</sup>Figures for transfers to other plants of the same company are included with "shipments to other companies."

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR STEEL FOUNDRIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3323- --	Steel foundries.....	119 89	130 124

# 1963 CENSUS OF MANUFACTURES

MC63(P)-33C-1



## INDUSTRY SERIES

**preliminary  
report**

### Primary copper

SIC Code 3331

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Primary Copper Industry had total shipments valued at \$1,245 million, an increase of 51 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 3 percent from 1958 and a decrease of 2 percent from 1962 to a total of 15 thousand employees in 1963. Value added by manufacture amounted to \$280 million in 1963, an increase of 77 percent from 1958 and 14 percent from 1962.

The Primary Copper Industry includes establishments engaged primarily in smelting copper from the ore, and in refining copper by electrolytic or other processes. Establishments primarily engaged in rolling, drawing, or extruding copper are classified in Industry 3351.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE PRIMARY COPPER INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3331)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	33	33	14,949	96,134	12,712	25,846	77,694	280,051	<sup>3</sup> 970,974	<sup>3</sup> 1,245,457	12,236	(X)
1962.....	(NA)	(NA)	15,256	95,877	12,793	25,982	75,704	246,653	<sup>3</sup> 961,130	<sup>3</sup> 1,207,131	10,413	3
1961.....	(NA)	(NA)	15,410	92,843	12,887	25,982	72,428	217,006	<sup>3</sup> 922,664	<sup>3</sup> 1,168,557	15,091	2
1960.....	(NA)	(NA)	16,122	93,845	13,834	27,488	74,042	243,433	<sup>3</sup> 924,426	<sup>3</sup> 1,134,290	10,279	2
1959.....	(NA)	(NA)	13,142	66,751	11,000	20,367	52,732	166,052	<sup>3</sup> 520,908	<sup>3</sup> 712,036	9,757	1
1958.....	30	29	14,561	76,116	12,248	24,476	60,852	158,122	<sup>3</sup> 659,438	<sup>3</sup> 824,994	19,334	(X)
1954.....	28	28	14,680	63,340	12,410	24,960	51,173	159,237	(NA)	(NA)	4,276	(X)
1947.....	27	26	14,629	44,790	13,065	29,751	38,967	93,196	(NA)	(NA)	4,176	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>The value of shipments and cost of materials for this industry include extensive duplication arising from shipments between establishments in the same industry classification. For further explanation see text "Value of shipments".

<sup>4</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

Data on cost of materials and value of shipments of the Primary Copper Industry include extensive duplication resulting from the transfer of products such as anode and blister copper to establishments producing refined copper. The value of such shipments are duplicated in the total value of shipments. A corresponding duplication enters into the total cost of materials. The data shown for value added by manufacture (value of shipments less cost of materials, etc.) avoid this duplication.

In view of the duplication in value of shipments, the exact "primary product specialization ratio" and the exact "coverage ratio" for this industry have not been computed.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

## 1963 CENSUS OF MANUFACTURES

3

Table 2.--GENERAL STATICS FOR THE PRIMARY COPPER INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3331)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials <sup>1</sup>	Value of shipments <sup>1</sup>	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employ-ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	33	33	14,949	96,134	12,712	25,846	77,694	280,051	970,974	1,245,457	12,236	14,561	158,122
Middle Atlantic...	8	8	5,032	33,063	4,177	8,744	26,252	41,277	126,324	183,936	5,079	5,180	48,926
North Central and South.....	8	8	3,020	18,114	2,595	5,266	14,923	51,607	133,348	173,433	1,488	2,306	18,981
West.....	17	17	6,897	44,957	5,940	11,836	36,519	187,167	711,302	888,088	5,669	7,075	90,215

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minoreconomic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>See table 1 footnote 3.

Table 3.--QUANTITY AND VALUE OF SMELTED AND REFINED COPPER SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Primary Copper Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963 <sup>1</sup>			1958				
		Total production <sup>2</sup>	Total shipments and interplant transfers <sup>3</sup>		Total production <sup>2</sup>	Total shipments and interplant transfers <sup>3</sup>		Total shipments of products made from materials owned by others <sup>4</sup> (short tons gross weight)	Produced and consumed in the same plant in manufacture of other products (short tons gross weight)
			Quantity	Value		Quantity	Value		
		(short tons gross weight)	(short tons gross weight)	(\$1,000)	(short tons gross weight)	(short tons gross weight)	(\$1,000)		
3331- --	Primary copper, total.....	(X)	(X)	1,296,934	(X)	(X)	841,328	(X)	(X)
33311 --	Copper smelter products.....	(X)	(X)	628,508	(X)	(X)	361,588	353,443	62,915
33311 11	Blister or anode copper.....	1,487,206	<sup>5</sup> 1,068,829	<sup>5</sup> 614,640	1,040,383	<sup>6</sup> 656,316	<sup>6</sup> 354,446	353,443	62,915
33311 51	Matte, speiss, flue dust, residues, etc.....	92,812	33,655	13,868	55,459	<sup>7</sup> 50,159	<sup>7</sup> 7,142	-	
33312 --	Refined copper.....	(X)	(X)	668,426	(X)	(X)	479,740	(X)	(X)
33412 --	Made by primary copper refiners (Industry 3331).....	1,850,686	640,882	421,571	(X)	(X)	320,496	(X)	(X)
33412 --	Made by secondary refiners (Industry 3341) and other industries.....	(X)	(X)	246,855	(X)	(X)	159,244	(X)	(X)
	Total for all industries.....	(X)	(X)	668,426	(X)	(X)	479,740	(X)	(X)
33312 11	Copper, unalloyed.....	1,912,340	725,277	470,229	1,595,452	649,297	344,188	1,032,241	4,960
33312 15	Copper-base alloys.....	290,447	305,325	196,788	318,437	254,543	135,552	3,435	(D)
33312 00	Refined primary copper, not specified by kind.....	(X)	(X)	1,419	(X)	(X)	-	(X)	(X)

- Represents zero. (X) Not applicable.

<sup>1</sup>Data for toll shipments and quantities produced and consumed in the same plant are excluded but will be included in the final report for this industry.

<sup>2</sup>Includes toll production.

<sup>3</sup>Includes shipments of these products produced on a toll basis by others.

<sup>4</sup>Includes shipments to other smelters and refiners, shipments to consumers, and to some nonmanufacturing companies which sell direct to consumers.

<sup>5</sup>Consists of 439,775 short tons valued at \$259,859 thousand shipped to other companies, and 629,054 short tons valued at \$354,781 thousand shipped as transfers to other plants of the same company.

<sup>6</sup>Consists of 115,676 short tons valued at \$59,306 thousand shipped to other companies and 540,640 short tons valued at \$295,140 thousand shipped as transfers to other plants of the same company.

<sup>7</sup>Consists of 11,541 short tons valued at \$1,511 thousand shipped to other companies and 38,618 short tons valued at \$5,631 thousand shipped as transfers to other plants of the same company.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

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OFFICIAL BUSINESS



# 1963 CENSUS OF MANUFACTURES

MC63(P)-33C-2



INDUSTRY SERIES

preliminary  
report

Primary lead

SIC Code 3332

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Primary Lead Industry shipped products valued at \$265 million, a decrease of 16 percent from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 28 percent from 1958, but an increase of 3 percent from 1962 to a total of 26 hundred employees in 1963. Value added by manufacture amounted to \$25 million in 1963, a decrease of 32 percent from 1958 and 22 percent from 1962.

The Primary Lead Industry includes establishments engaged primarily in smelting lead from the ore, and in refining lead by any process. Establishments primarily engaged in rolling, drawing, or extruding lead are classified in Industry 3356.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE PRIMARY LEAD INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3332)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	10	10	2,578	14,997	2,114	4,106	11,156	24,876	<sup>3</sup> 228,906	<sup>3</sup> 265,072	792	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	2,510	14,633	2,057	4,059	10,894	32,072	<sup>3</sup> 230,417	<sup>3</sup> 268,816	1,371	3
1961 <sup>2</sup> .....	(NA)	(NA)	2,685	15,378	2,208	4,453	11,504	28,933	<sup>3</sup> 251,718	<sup>3</sup> 282,978	1,680	2
1960 <sup>2</sup> .....	(NA)	(NA)	2,751	15,740	2,214	4,581	11,623	40,122	<sup>3</sup> 281,478	<sup>3</sup> 316,673	922	2
1959 <sup>2</sup> .....	(NA)	(NA)	2,603	13,824	2,018	3,932	9,736	32,018	<sup>3</sup> 177,752	<sup>3</sup> 208,876	(271)	1
1958.....	13	13	3,563	18,182	2,864	5,687	13,599	36,325	<sup>3</sup> 292,506	<sup>3</sup> 316,934	725	(X)
1954.....	13	13	4,063	17,393	3,312	6,659	13,142	30,772	(NA)	(NA)	1,404	(X)
1947.....	16	16	4,663	14,082	4,022	8,879	11,610	35,902	(NA)	(NA)	2,649	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>The value of shipments and cost of materials for this industry include extensive duplication arising from shipments between establishments in the same industry classification. For further explanation see text "Value of Shipments."

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

Data on cost of materials and value of shipments of the Primary Lead Industry include extensive duplication resulting from the transfer of products such as lead-base bullion to establishments producing refined lead. The value of such shipments are duplicated in the total value of shipments. A corresponding duplication enters into the total cost of materials. The data shown for value added by manufacture (value of shipments less cost of materials, etc.) avoid this duplication.

In view of the duplication in value of shipments, the exact "primary product specialization ratio" and the exact "coverage ratio" for this industry have not been computed.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of



Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next

census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE PRIMARY LEAD INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(Preliminary State and regional detail not available without further review)

Table 3.—QUANTITY AND VALUE OF SMELTED AND REFINED LEAD SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product	1963			1958			Shipments of products made from materials owned by others <sup>3</sup> (short tons gross weight)	Produced and consumed in the same plant in the manufacture of other products (short tons gross weight)	
		Total production <sup>1</sup> (short tons gross weight)	Total shipments including inter-plant transfers <sup>2</sup>		Total production <sup>1</sup> (short tons gross weight)	Total shipments including inter-plant transfers <sup>2</sup>				
			Quantity (short tons gross weight)	Value (\$1,000)		Quantity (short tons gross weight)	Value (\$1,000)			
3332- --	Primary lead, total.....	(X)	(X)	(D)	(X)	(X)	(D)	(X)	(X)	
33321 --	Lead smelter products <sup>4</sup> .....	(X)	(X)	(D)	(X)	(X)	(D)	(D)	209,754	
33321 11	Base bullion.....	279,728	(D)	(D)	479,846	}	(D)	(D)	209,754	
33321 51	Matte, speis, etc.....	132,374	(D)	(D)	118,562		(D)	(D)	(D)	
33323 --	} Refined lead:									
33313 --										
33323 --		Made by primary lead refineries (Industry 3332)	(X)	(X)	78,937	(X)	(X)	104,788	(X)	(X)
33413 --		Made by secondary refineries (Industry 3341) and other industries.....	(X)	(X)	193,692	(X)	(X)	176,149	(X)	(X)
	Total for all industries.....	(X)	(X)	272,629	(X)	(X)	280,937	(X)	(X)	
33323 11	Lead unalloyed.....	626,437	<sup>5</sup> 440,713	<sup>5</sup> 97,840	658,569	<sup>6</sup> 521,108	<sup>6</sup> 120,116	104,431	(D)	
	Lead and tin-base alloys:									
33323 31	Antimonial lead.....	326,718	<sup>7</sup> 305,436	<sup>7</sup> 72,433	244,259	242,594	61,489	8,412	(D)	
33323 33	Babbitt metal.....	14,389	13,423	9,171	26,823	24,508	13,796	(D)	242	
33323 51	Solder.....	102,146	99,062	67,716	70,047	70,483	51,518	2,357	502	
33323 71	Type metal.....	39,363	34,521	12,479	42,871	39,802	14,682	(D)	(D)	
33323 98	Other lead and tin-base alloys.....	34,152	23,423	8,689	29,510	33,322	13,320	3,489	(D)	
33323 00	Refined lead, not specified by kind.....	(X)	(X)	4,301	(X)	(X)	6,016	(X)	(X)	

(X) Not applicable. (D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Includes toll production.

<sup>2</sup>Includes shipments of these products produced on a toll basis by others.

<sup>3</sup>Includes shipments to other smelters and refiners, shipments to consumers, and to some nonmanufacturing companies which sell direct to consumers.

<sup>4</sup>Lead smelter products produced and consumed in the same plant totaled 97,464 short tons in 1963.

<sup>5</sup>Consists of 418,467 short tons valued at \$93,064 thousand shipped to other companies and 22,246 short tons valued at \$4,776 thousand shipped as transfers to other plants of the same company.

<sup>6</sup>Consists of 509,074 short tons valued at \$117,286 thousand shipped to other companies and 12,034 short tons valued at \$2,830 thousand shipped as transfers to other plants of the same company.

<sup>7</sup>Consists of 263,969 short tons valued at \$62,370 thousand shipped to other companies and 41,467 short tons valued at \$10,063 thousand shipped as transfers to other plants of the same company.



U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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OFFICIAL BUSINESS

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-33C-3



## INDUSTRY SERIES

**preliminary  
report**

### Primary zinc

SIC Code 3333

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Primary Zinc Industry had total shipments valued at \$282 million, an increase of 35 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 10 percent from 1958 and 5 percent from 1962 to a total of 8.1 thousand employees in 1963. Value added by manufacture amounted to \$99 million in 1963, an increase of 8 percent from 1958 and 29 percent from 1962.

The Primary Zinc Industry includes establishments engaged primarily in smelting zinc from the ore, and in refining zinc by any process. Establishments primarily engaged in rolling, drawing, or extruding zinc are classified in Industry 3356.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE PRIMARY ZINC INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3333)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	18	18	8,065	47,760	6,575	13,245	36,238	98,789	173,473	281,537	4,734	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	8,449	48,535	6,892	14,315	36,934	76,297	177,201	258,468	4,501	3
1961 <sup>2</sup> .....	(NA)	(NA)	8,361	46,875	6,739	14,260	35,655	84,206	165,515	257,410	2,739	2
1960 <sup>2</sup> .....	(NA)	(NA)	8,582	47,675	6,713	14,129	34,417	94,611	168,627	252,408	3,017	2
1959 <sup>2</sup> .....	(NA)	(NA)	8,625	45,500	6,823	14,446	33,710	80,581	153,114	236,403	4,080	1
1958.....	20	20	8,923	44,078	7,000	13,788	32,633	91,653	140,197	208,993	13,445	(X)
1954 <sup>3</sup> .....	21	21	10,470	44,042	8,638	16,546	34,104	87,501	143,768	231,340	5,276	(X)
1947 <sup>3</sup> .....	20	20	12,424	35,476	11,088	22,232	30,475	77,068	113,928	190,996	6,739	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Primary Zinc Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Primary Zinc Industry amounted to \$282 million. Of this total, \$26 million were products primary to other industries; and \$10 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 90 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$307 million of smelted and refined zinc were shipped by all producers of these products. Of this total, \$246 million, or 80 percent, were shipped by plants classified in Industry 3333, Primary Zinc, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 76 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE PRIMARY ZINC INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3333)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	18	18	8,065	47,760	6,575	13,245	36,238	98,789	173,473	281,537	4,734	8,923	71,653
South.....	8	8	3,492	20,317	3,136	6,387	17,386	48,170	68,315	121,296	2,280	3,372	33,277
All other divisions.....	10	10	4,573	27,443	3,439	6,858	18,852	50,619	105,158	160,241	2,454	5,551	38,376

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report in this industry.)

Table 3.—QUANTITY AND VALUE OF SMELTED AND REFINED ZINC SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Smelted and Refined Zinc Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963 <sup>1</sup>			1958					
		Total production <sup>2</sup>	Total shipments and interplant transfers <sup>3</sup>		Total production <sup>2</sup>	Total shipments and interplant transfers <sup>3</sup>		Total shipments of products made from materials owned by others <sup>4</sup> (short tons) (gross weight)	Produced and consumed in the same plant in manufactures of other products (short tons) (gross weight)	
			Quantity (short tons) (gross weight)	Value (\$1,000)		Quantity (short tons) (gross weight)	Value (\$1,000)			
3333- --	Primary zinc, total.....	1,744,430	1,713,449	306,821	1,475,563	1,358,096	232,513	(X)	(X)	
33331 11	Zinc residues and other zinc smelter products..	478,209	582,406	34,798	438,014	<sup>5</sup> 425,564	<sup>5</sup> 25,822	8,620	(D)	
33334 --	Refined zinc:									
33414 --	Made by primary zinc refineries (Industry 3333).....	1,081,996	975,856	230,476	(X)	(X)	158,137	(X)	(X)	
33414 --	Made by secondary refineries (Industry 3341) and other industries.....	184,225	155,187	41,547	(X)	(X)	48,554	(X)	(X)	
	Total for all industries.....	1,266,221	1,131,043	272,023	1,037,549	932,532	206,691	(X)	(X)	
	Unalloyed zinc:									
33334 13	Zinc slab, including remelt zinc.....	973,548	<sup>6</sup> 864,571	<sup>6</sup> 202,004	863,317	<sup>6</sup> 776,667	<sup>6</sup> 158,713	76,334	(D)	43,180
33334 51	Zinc dust.....	43,066	44,481	12,899	25,792	<sup>7</sup> 25,518	<sup>7</sup> 7,070	(D)	(D)	
33334 61	Zinc-base alloys.....	249,607	221,991	57,120	148,440	<sup>8</sup> 130,347	<sup>8</sup> 40,908	11,506		-

(D) Withheld to avoid disclosing figures for individual companies. (X) Not applicable. - Represents zero.

<sup>1</sup>Data for toll shipments and quantities produced and consumed in the same plant are excluded but will be included in the final report for this industry.<sup>2</sup>Includes toll production.<sup>3</sup>Includes shipments of these products produced on a toll basis by others.<sup>4</sup>Includes shipments to other smelters and refineries, shipments to consumers, and to some nonmanufacturing companies which sell directly to consumers.<sup>5</sup>Consists of 210,939 short tons valued at \$13,448 thousand shipped to other companies and 214,625 short tons valued at \$12,374 thousand shipped as transfers to other plants of the same company.<sup>6</sup>1963 total shipments consists of 836,588 short tons valued at \$195,432 thousand shipped to other companies and 27,983 short tons valued at \$6,572 thousand shipped as transfers to other plants of the same company. Comparable figures in 1958 were: 752,670 short tons valued at \$153,639 thousand shipped to other companies and 23,997 short tons valued at \$5,074 thousand shipped as transfers to other plants of the same company.<sup>7</sup>Represents shipments to other companies. None were shipped as transfers to other plants of the same company.<sup>8</sup>Consists of 129,715 short tons valued at \$40,742 thousand shipped to other companies and 632 short tons valued at \$166 thousand shipped as transfers to other plants of the same company.

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OFFICIAL BUSINESS

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U.S. DEPARTMENT OF COMMERCE

# 1963 CENSUS OF MANUFACTURES

MC63(P)-33C-4



## INDUSTRY SERIES

preliminary  
report

### Primary aluminum

SIC Code 3334

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Primary Aluminum Industry shipped products valued at \$1,090 million, an increase of 35 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 4 percent from 1958 and 5 percent from 1962 to a total of 18 thousand employees in 1963. Value added by manufacture amounted to \$499 million in 1963, an increase of 30 percent from 1958 and 6 percent from 1962.

The Primary Aluminum Industry includes establishments engaged primarily in producing aluminum from alumina, and in refining aluminum by any process. Establishments primarily engaged in rolling, drawing, or extruding aluminum are classified in Industry 3352.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE PRIMARY ALUMINUM INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3334)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	23	22	18,133	134,116	14,467	29,487	101,326	499,410	571,940	1,089,811	62,149	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	17,221	125,584	13,677	27,924	94,629	471,980	521,756	1,014,921	10,798	3
1961 <sup>2</sup> .....	(NA)	(NA)	16,201	117,151	12,651	26,087	86,170	454,206	489,105	953,894	19,258	2
1960 <sup>2</sup> .....	(NA)	(NA)	17,848	123,956	14,120	29,133	92,498	472,711	503,071	921,215	26,647	2
1959 <sup>2</sup> .....	(NA)	(NA)	17,997	122,606	14,362	30,022	92,622	459,285	476,741	953,775	38,534	1
1958.....	20	20	17,381	111,588	13,428	27,738	82,750	383,836	411,758	808,822	142,293	(X)
1954 <sup>3</sup> .....	16	16	20,626	96,813	16,982	35,335	77,174	258,944	339,964	604,195	26,073	(X)
1947 <sup>3</sup> .....	11	11	8,919	26,398	7,336	16,014	20,930	65,262	95,748	161,010	2,791	(X)
1939 <sup>3</sup> .....	4	(NA)	3,345	5,120	2,802	(NA)	3,928	36,885	27,715	64,600	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Primary Aluminum Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Primary Aluminum Industry amounted to \$1,090 million. Of this total, \$1 million were products primary to other industries; and \$17 million were receipts for miscellaneous activities. The industry shipments of primary products represent almost 100 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 100 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,422 million of aluminum ingot and billet were shipped by all producers of these products. Of this total, \$1,073 million, or 75 percent, were shipped by plants classified in Industry 3334, Primary Aluminum, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 76.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

## 1963 CENSUS OF MANUFACTURE

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATICS FOR THE PRIMARY ALUMINUM INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3334)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	23	22	18,133	134,116	14,467	29,487	101,326	499,410	571,940	1,089,811	62,149	17,381	383,836
West South Central	6	6	6,436	47,066	5,270	10,734	36,236	168,107	167,711	342,818	(D)	6,803	176,537
West.....	8	7	4,765	35,201	3,747	7,562	26,130	159,104	152,086	315,004	(D)	4,564	110,958
All other divisions.....	9	9	6,932	51,849	5,450	11,191	38,960	172,199	252,143	431,989	(D)	6,014	96,341

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.



Table 3.—QUANTITY AND VALUE OF ALUMINUM INGOT AND EXTRUSION BILLET SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Primary Aluminum Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total production <sup>1</sup>  (short tons, gross weight)	Shipments including interplant transfers <sup>2</sup>						Produced and consumed in the same plant in the manufacture of other products (short tons, gross weight)	Total shipments of products made from materials owned by others (short tons, gross weight)
			Total		Shipments to all other companies		Transfers to other plants of the same company			
			Quantity (short tons, gross weight)	Value (\$1,000)	Quantity (short tons, gross weight)	Value (\$1,000)	Quantity (short tons, gross weight)	Value (\$1,000)		
			1963							
3334- --	Refined aluminum, total.....	3,729,460	3,173,412	1,422,242	1,838,416	809,469	1,334,996	612,773	738,728	}
33347 11	Aluminum ingot.....	3,120,851	2,755,211	1,234,004	1,543,492	679,925	1,211,719	554,079	515,259	
33417 11	Made in primary aluminum industry (Industry 3334).....	2,009,915	2,119,845	948,103	966,541	428,036	1,153,304	520,067	}	
33527 11	Made in secondary nonferrous metals industry (Industry 3341)	548,669	548,807	237,064	576,951	251,889	58,415	34,012		
	Made in aluminum rolling mills (Industry 3352) <sup>3</sup> .....	562,267	86,559	48,837						
33348 11	Aluminum extrusion billet.....	608,609	418,201	188,238	294,924	129,544	123,277	58,694	223,469	
	Made in primary aluminum industry (Industry 3334).....	254,500	272,092	122,908	193,561	86,354	78,531	36,554	-	
33418 11	Made in secondary nonferrous metals industry (Industry 3341)	61,219	32,976	14,264	32,976	14,264	-	-	-	
33528 11	Made in aluminum rolling mills (Industry 3352) <sup>3</sup> .....	292,890	113,133	51,066	68,387	28,926	44,746	22,140	223,469	
			1958							
3334- --	Refined aluminum, total.....	2,091,821	2,146,805	1,057,801	1,141,380	551,404	1,005,425	506,397	(D)	(D)
	Aluminum-base alloys.....	<sup>5</sup> 988,961	1,017,043	507,695	570,880	277,198	446,163	230,497	<sup>5</sup> 5,105	<sup>6</sup> 23,175
33341 11	Made in primary aluminum industry (Industry 3334).....	481,424	508,189	260,838	156,525	82,463	351,664	178,375	}	<sup>5</sup> 5,105
33520 11	Made in aluminum rolling mills (Industry 3352) <sup>3</sup> .....	<sup>5</sup> 185,921	186,791	101,739	101,615	54,343	85,176	47,396		
33411 11	Made in secondary nonferrous metals industry (Industry 3341)	312,280	311,359	140,471	302,036	135,745	9,323	4,726		
	Made in all other industries....	9,336	10,704	4,647	10,704	4,647	-	-	-	
33342 11	Refined unalloyed aluminum.....	1,102,860	1,129,762	550,106	570,500	274,206	559,262	275,900	(D)	(D)
	Made in Industry 3334.....	1,077,861	1,105,216	539,173	545,954	263,273	559,262	275,900	(D)	(D)
	Made in Industry 3341.....	24,999	24,546	10,933	24,546	10,933	-	-	(D)	(D)

- Represents zero. (D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Includes toll production.<sup>2</sup>Includes shipments of these products produced on a toll basis by others.<sup>3</sup>Most of the aluminum ingot and billet (alloys) produced by aluminum rolling mills represent duplication of tonnages reported by the primary aluminum industry in that the metal produced by the rolling mills is made from ingot produced in primary aluminum plants.<sup>4</sup>Data for toll shipments are excluded but will be included in the final report for this industry.<sup>5</sup>Excludes ingot and billet produced and consumed in rolling mills.<sup>6</sup>Includes shipments to other smelters and refiners, shipment to consumers, and to some nonmanufacturing companies which sell direct to consumers.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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OFFICIAL BUSINESS



# 1963 CENSUS OF MANUFACTURES

MC63(P)-33C-5



INDUSTRY SERIES

preliminary  
report

## Secondary nonferrous metals

SIC Code 3341

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Secondary Nonferrous Metals Industry had total shipments valued at \$1,040 million, an increase of 44 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 7 percent from 1958 to a total of 15 thousand employees in 1963. Value added by manufacture amounted to \$224 million in 1963, an increase of 52 percent from 1958.

The Secondary Nonferrous Metals Industry includes establishments engaged primarily in recovering nonferrous metals and alloys from new and used scrap and dross, but which are not engaged in further fabrication. This industry includes establishments engaged in both the recovering and alloying of precious metals. Plants engaged in the recovery of tin through secondary smelting and refining, as well as by chemical processes, are included in this industry. Establishments primarily engaged in assembling, sorting, and breaking up scrap metal, without smelting and refining are classified in trade industries.

This report does not include figures for administrative offices, warehouses, garages, or

Table 1.—GENERAL STATISTICS FOR THE SECONDARY NONFERROUS METALS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3341)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	456	179	15,422	96,201	11,315	23,753	60,450	223,548	821,366	1,040,173	17,860
1958.....	387	152	14,441	75,669	10,813	21,194	46,869	147,262	581,589	724,013	5,355
1954 <sup>3</sup> .....	354	140	15,155	68,822	11,754	24,146	44,867	144,800	599,392	742,188	9,254
1947 <sup>3</sup> .....	321	(NA)	18,089	55,897	14,511	31,023	38,561	119,153	602,803	721,956	7,225
1939 <sup>3</sup> .....	280	(NA)	(NA)	(NA)	8,109	(NA)	11,320	41,381	212,182	235,563	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The standard errors associated with these estimates are published in the Annual Survey of Manufactures volumes for this period.

<sup>3</sup>Data for Alaska and Hawaii are not included.

June 1965

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954, and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Secondary Nonferrous Metals Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Secondary Nonferrous Metals Industry amounted to \$1,040 million. Of this total, \$67 million were products primary to other industries; and \$175 million were receipts for miscellaneous activities. The industry shipments of primary products represent 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 93 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$3,091 million of refined nonferrous metals were shipped by all producers of these products. Of this total, \$798 million, or 26 percent, were shipped by plants classified in Industry 3341, Secondary Nonferrous Metals, while the remainder was shipped by plants classified in other industries.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports



will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE SECONDARY NONFERROUS METALS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3341)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	456	179	15,422	96,201	11,315	23,753	60,450	223,548	821,366	1,040,173	17,860	14,441	147,262
New England.....	35	9	380	2,325	246	560	1,279	13,491	26,650	39,887	( <sup>1</sup> )	424	8,145
Middle Atlantic...	142	49	5,255	32,399	3,723	7,629	19,806	66,850	283,673	354,862	7,928	4,298	43,739
New York.....	61	15	1,853	11,926	1,309	2,628	7,425	25,960	107,754	132,014	5,629	1,488	10,965
New Jersey.....	39	17	1,653	10,097	1,137	2,345	5,847	18,654	102,274	126,607	1,534	1,291	11,316
Pennsylvania....	42	17	1,749	10,376	1,277	2,656	6,534	22,236	73,645	96,241	765	1,519	21,458
East North Central	131	61	5,568	36,881	4,225	8,976	23,819	84,972	336,440	415,768	5,560	6,278	64,011
Illinois.....	45	25	2,550	16,498	1,904	4,018	10,445	36,294	184,231	217,396	3,120	3,489	35,992
Michigan.....	26	8	428	2,632	335	698	1,677	7,725	20,237	27,798	( <sup>1</sup> )	407	2,466
West North Central	17	9	477	2,858	371	744	1,659	5,143	23,941	28,594	( <sup>1</sup> )	482	4,362
South Atlantic....	24	10	755	4,303	587	1,289	2,985	13,569	35,902	49,036	1,278	543	6,338
East South Central	13	7	433	2,099	361	795	1,486	4,785	14,448	19,133	( <sup>1</sup> )	190	1,743
West South Central	21	11	760	3,716	639	1,346	2,765	10,940	26,690	36,557	( <sup>1</sup> )	552	2,843
Texas.....	11	6	505	2,574	413	864	1,856	8,005	17,437	24,784	( <sup>1</sup> )	363	1,422
West.....	73	23	1,794	11,620	1,163	2,414	6,651	23,798	73,622	96,336	1,554	1,674	16,081
California.....	53	18	1,514	9,816	961	1,962	5,492	20,043	62,773	81,414	879	1,479	14,096

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF REFINED NONFERROUS METALS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Secondary Nonferrous Metals Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

		1963 <sup>1</sup>						
Product code	Product	Total production <sup>2</sup>	Shipments including interplant transfers <sup>3</sup>					
			Total		Shipments to all other companies		Transfers to other plants of the same company	
			Quantity (short tons gross weight)	Value (\$1,000)	Quantity (short tons gross weight)	Value (\$1,000)	Quantity (short tons gross weight)	Value (\$1,000)
3341- --	Refined nonferrous metals, total.....	(NA)	(NA)	3,091,486	(D)	(D)	(D)	(D)
33312 --	Refined copper.....	(NA)	(NA)	668,426	(D)	(D)	(D)	(D)
33412 --	Made in secondary nonferrous metal industry (Industry 3341) and other industries.....	(NA)	(NA)	246,855	(D)	(D)	(D)	(D)
33412 11	Made in primary copper industry (Industry 3331).....	1,850,686	640,882	421,571	(D)	(D)	(D)	(D)
33412 31	Copper, unalloyed.....	1,912,340	725,277	470,229	(D)	(D)	(D)	(D)
33412 00	Copper-base alloys.....	290,447	305,325	196,778	305,325	196,778	-	-
33323 --	Secondary copper, not specified by kind.....	(NA)	(NA)	1,419	(NA)	1,419	-	-
33413 --	Refined lead.....	(X)	(X)	275,381	(X)	260,542	(X)	14,839
33413 11	Made in secondary nonferrous metals industry (Industry 3341) and other industries.....	(X)	(X)	196,525	(X)	(NA)	(X)	(NA)
	Made in primary lead industry (Industry 3332).....	(X)	(X)	78,856	(X)	(NA)	(X)	(NA)
	Lead, unalloyed.....	626,437	440,713	97,840	418,467	93,064	22,246	4,776
33413 21	Lead and tin-base alloys:							
	Antimonial lead.....	326,718	305,436	72,463	263,969	62,400	41,467	10,063
33413 33	Babbitt metal.....	14,389	13,413	9,171	13,413	9,171	-	-
33413 51	Solder.....	102,146	100,880	69,699	100,380	69,699	-	-
33413 71	Type-metal.....	39,363	34,521	12,479	34,521	12,479	-	-
33413 98	Other lead and tin-base alloys.....	34,152	23,423	8,689	23,423	8,689	-	-
33413 00	Refined lead, not specified by kind.....	(X)	(X)	5,040	(X)	5,040	(X)	(X)
33334 --	Refined zinc.....	1,266,221	1,131,043	272,023	(D)	(D)	(D)	(D)
33414 --	Made in secondary nonferrous metals industry (Industry 3341) and other industries.....	184,225	155,187	41,547	(D)	(D)	(D)	(D)
	Made in primary zinc industry (Industry 3333).....	1,081,996	975,856	230,476	(D)	(D)	(D)	(D)
33414 01	Zinc slab, including remelt zinc, unalloyed.....	973,548	864,571	202,004	836,588	195,432	27,983	6,572
33414 05	Zinc dust, unalloyed.....	43,066	44,481	12,899	(D)	(D)	(D)	(D)
33414 11	Zinc-base alloys.....	249,607	221,991	57,120	(D)	(D)	(D)	(D)
33395 --	Precious metals.....	(NA)	(NA)	244,977	(D)	(D)	(D)	(D)
33415 --	Made in secondary nonferrous metals industry (Industry 3341) and other industries.....	(NA)	(NA)	58,717	(D)	(D)	(D)	(D)
	Made in primary nonferrous metals industry n.e.c. (Industry 3339).....	(NA)	(NA)	186,260	(D)	(D)	(D)	(D)
	Unalloyed:							
33415 11	Gold.....	41,511,820	41,470,814	52,787	(D)	(D)	(D)	(D)
33415 31	Silver.....	(NA)	(NA)	106,793	(D)	(D)	(D)	(D)
33415 51	Platinum, including platinum-group metals.....	(NA)	(NA)	25,049	(D)	(D)	(D)	(D)
	Alloys:							
33415 71	Silver-base.....	(NA)	(NA)	60,348	(D)	(D)	(D)	(D)
33415 81	Gold-base.....	(NA)	(NA)					
33415 89	Other precious metal, including platinum-group.....	(NA)	(NA)					
33415 00	Precious metals, not specified by kind.....	(NA)	(NA)					
33397 --	Other nonferrous metals, except aluminum.....	(NA)	(NA)	188,180	(D)	(D)	(D)	(D)
33416 --	Made in secondary nonferrous metals industry (Industry 3341) and other industries.....	(NA)	(NA)	32,865	(D)	(D)	(D)	(D)
	Made in primary nonferrous metals n.e.c. industry (Industry 3339).....	(NA)	(NA)	155,315	(D)	(D)	(D)	(D)
	Other nonferrous metals:							
	Alloyed:							
33416 21	Magnesium-base alloys.....	31,682	26,723	17,286	(D)	(D)	(D)	(D)
33416 31	Nickel-base alloys.....	3,615	3,685	10,651	3,685	10,651	-	-
33416 43	Other nonferrous metal alloys.....	(NA)	(NA)	9,447	(NA)	9,447	-	-
	Unalloyed:							
33416 51	Cadmium.....	4,035	4,308	17,926	(D)	(D)	(D)	(D)
33416 61	Magnesium.....	80,744	56,794	39,470	(D)	(D)	(D)	(D)
33416 69	Nickel.....	1,518	1,087	1,740	1,087	1,740	-	-
33416 71	Tin.....	(NA)	(NA)	6,641	(D)	(D)	(D)	(D)
33416 89	Titanium sponge.....	(NA)	(NA)	9,009	(NA)	9,009	-	-
33416 98	Other unalloyed nonferrous metals.....	(NA)	(NA)	71,961	(NA)	55,627	(NA)	16,334
33416 00	Other nonferrous metals, not specified by kind.....	(X)	(X)	4,049	(NA)	4,049	-	-
33417 --	Aluminum ingot (excluding extrusion billet) <sup>5</sup> .....	3,120,851	2,755,261	1,234,004	1,543,492	679,925	1,211,716	554,079
33347 11	Made in primary aluminum industry (Industry 3334).....	2,009,915	2,119,895	948,103	966,591	428,036	1,153,304	520,067
33417 11	Made in secondary nonferrous metals industry (Industry 3341).....	548,669	548,807	237,064				
33527 11	Made in aluminum rolling mills (Industry 3352) <sup>6</sup> .....	562,267	86,559	48,837	576,951	251,889	58,415	34,012
33418 --	Aluminum extrusion billet <sup>7</sup> .....	608,609	418,201	188,238	294,924	129,544	123,277	58,694
33348 11	Made in primary aluminum industry (Industry 3334).....	254,500	272,092	122,908	193,561	86,354	78,531	36,554
33418 11	Made in secondary nonferrous metals industry (Industry 3341).....	61,219	32,976	14,264	32,976	14,264	-	-
33528 11	Made in aluminum rolling mills (Industry 3352) <sup>6</sup> .....	292,890	113,133	51,066	68,387	28,926	44,746	22,140
33410 00	Refined nonferrous metals, not specified by kind.....	(X)	(X)	20,257	(X)	(X)	(X)	(X)

See footnotes at end of table.

Table 3.—QUANTITY AND VALUE OF REFINED NONFERROUS METALS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	1958								Total shipments of products made from materials owned by others <sup>2</sup> (gross weight short tons)	Produced and consumed in the same plant in the manufacture of other products (gross weight short tons)	
		Total production <sup>2</sup>  (gross weight short tons)	Shipments including interplant transfers <sup>3</sup>									
			Total		Shipments to all other companies		Transfers to other plants of the same company					
			Quantity (gross weight short tons)	Value (\$1,000)	Quantity (gross weight short tons)	Value (\$1,000)	Quantity (gross weight short tons)	Value (\$1,000)				
3341- --	Refined nonferrous metals, total....	(X)	(X)	2,387,082	(X)	(NA)	(X)	(NA)	(X)	(X)		
33312 --	Refined copper.....	(X)	(X)	479,740	(X)	468,570	(X)	11,170	(X)	(X)		
33412 --		Made in secondary nonferrous metals industry (Industry 3341) and other industries.....	(X)	(X)	159,244	(X)	(D)	(X)	(D)	(X)	(X)	
		Made in primary copper industry (Industry 3331).....	(X)	(X)	320,496	(X)	(D)	(X)	(D)	(X)	(X)	
33412 11	Copper unalloyed.....	1,595,452	649,257	344,188	(D)	(D)	(D)	(D)	1,032,241	4,960		
33412 31	Copper-base alloys.....	318,437	254,543	135,552	(D)	(D)	(D)	(D)	3,435	(D)		
33323 --	Refined lead.....	(X)	(X)	280,937	(X)	(D)	(X)	(D)	(X)	(X)		
33413 --		Made in secondary nonferrous metals industry (Industry 3341) and other industries.....	(X)	(X)	176,149	(X)	(D)	(X)	(D)	(X)	(X)	
		Made in primary lead industry (Industry 3332).....	(X)	(X)	104,788	(X)	(D)	(X)	(D)	(X)	(X)	
33413 11	Lead unalloyed.....	658,569	521,108	120,116	509,074	117,286	12,034	2,830	104,431	(D)		
	Lead and tin-base alloys:											
33413 21	Antimonial lead.....	244,259	242,594	61,489	(D)	(D)	(D)	(D)	8,412	(D)		
	Babbitt metal:											
33413 31	Lead-base.....	23,833	22,144	9,837	(D)	(D)	(D)	(D)	(D)	242		
33413 35	Tin-base.....	2,990	2,364	3,959	(D)	(D)	(D)	(D)	(D)	-		
33413 51	Solder.....	70,047	70,483	51,518	(D)	(D)	(D)	(D)	2,357	52		
33413 71	Type metal.....	42,871	39,802	14,682	(D)	(D)	(D)	(D)	(D)	(D)		
33413 98	Other lead and tin-base alloys.....	29,510	33,322	13,320	(D)	(D)	(D)	(D)	3,489	(D)		
33413 00	Refined lead, not specified by kind...	(X)	(X)	6,016	(X)	6,016	(X)	-	(X)	(X)		
33334 --	Refined zinc.....	(X)	(X)	206,691	(X)	201,451	(X)	5,240	(X)	(X)		
33414 --		Made in secondary nonferrous metals industry (Industry 3341) and other industries.....	(X)	(X)	48,554	}	(X)	201,451	(X)	5,240	(X)	(X)
		Made in primary zinc industry (Industry 3333).....	(X)	(X)	158,137							
33414 01	Zinc slab, including remelt zinc, unalloyed.....	863,317	776,667	158,713	752,670	153,639	23,997	5,074	76,334	43,180		
33414 05	Zinc dust, unalloyed.....	25,792	25,518	7,070	25,518	7,070	-	-	(D)	(D)		
33414 11	Zinc-base alloys.....	148,440	130,347	40,908	129,715	40,742	632	166	11,506	-		
33395 --	Precious metals.....	(X)	(X)	198,587	(X)	(NA)	(X)	(NA)	(X)	(X)		
33415 --		Made in secondary nonferrous metals industry (Industry 3341) and other industries.....	(X)	(X)	198,587	(X)	(NA)	(X)	(NA)	(X)	(X)	
33415 --		Made in primary nonferrous metals industry (Industry 3339).....	(X)	(X)	198,587	(X)	(NA)	(X)	(NA)	(X)	(X)	
33415 11	Unalloyed gold, platinum and silver...	(NA)	(NA)	182,799	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
33415 51		(NA)	(NA)		(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
33415 31		(NA)	(NA)		(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
	Alloys:											
33415 71	Silver and silver-base alloys.....	(NA)	(NA)	3,753	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		
33415 81	Gold and gold-base alloys.....	(NA)	(NA)	12,035	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)		

See footnotes at end of table.

Table 3.—QUANTITY AND VALUE OF REFINED NONFERROUS METALS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES; 1963 AND 1958—Continued

Product code	Product	1958								Total shipments of products made from materials owned by others <sup>8</sup> (gross weight short tons)	Produced and consumed in the same plant in the manu- facture of other products (gross weight short tons)
		Total production <sup>2</sup>  (gross weight short tons)	Shipments including interplant transfers <sup>3</sup>								
			Total		Shipments to all other companies		Transfers to other plants of the same company				
			Quantity (gross weight short tons)	Value (\$1,000)	Quantity (gross weight short tons)	Value (\$1,000)	Quantity (gross weight short tons)	Value (\$1,000)			
33397 -- 33416 --	Other nonferrous metals, except aluminum: Made in secondary nonferrous metals industry (Industry 3341) and other industries.....	(X)	(X)	163,326	(X)	(NA)	(X)	(NA)	(X)	(X)	
33416 61 51, 69, 71, 81, 89	Made in primary nonferrous metals industry (Industry 3339).....										
33416 98	Other unalloyed metals (including magnesium, cadmium, nickel, tin, titanium sponge, antimony, cobalt, molybdenum, etc.).....	(NA)	(NA)	113,900	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
	Other unrefined nonferrous metals (including metal bearing furnace residues and other metal products) which have to be further refined before sale to customers.....										
33416 21 33416 31 33416 41 33416 00	Metal alloys: Magnesium-base alloys..... Other nonferrous metal alloys (including nickel-base alloys)..... Other nonferrous metals, n.e.c., not specified by kind.....	(NA) (X) (X) (X)	11,040 (X) (X) (X)	9,764 33,219 6,443	(NA) (X) (X) (X)	(NA) (NA) (NA) (NA)	(NA) (X) (X) (X)	(NA) (NA) (NA) (NA)	(NA) (X) (X) (X)	(NA) (X) (X) (X)	
33411 11 33341 11 33520 11 33341 11	Aluminum-base alloys..... Made in primary aluminum refineries (Industry 3334)..... Made in aluminum rolling mills (Industry 3352) <sup>5</sup> ..... Made in Industry 3341..... All other industries.....	<sup>9</sup> 988,961 481,424  <sup>9</sup> 185,921 312,280 9,336	1,017,043 508,189  186,791 311,359 10,704	507,695 260,838  101,739 140,471 4,647	570,880 156,525  101,615 302,036 10,704	277,198 82,463  54,343 135,745 4,647	446,163 351,664  85,176 9,323 -	230,497 178,375  47,396 4,726 -	23,175	5,105	
33411 11											
33340 11	Refined unalloyed aluminum: Made in secondary nonferrous metals industry (Industry 3341)..... Made in primary aluminum industry (Industry 3334).....	24,221 1,078,361	24,046 1,105,716	10,662 539,444	24,046 545,954	10,662 263,273	- 559,762	- 276,171	(X) (X)	(X) (X)	

- Represents zero. n.e.c. Not elsewhere classified. (D) Withheld to avoid disclosing figures for individual companies.

(NA) Not available. (X) Not applicable. <sup>1</sup>Revised.  
<sup>4</sup>Data for toll shipments are excluded but will be included in the final report for the industry. Also, except for aluminum ingot and billet, data for quantities produced and consumed in the same plant are excluded. See footnotes 5 and 7.

<sup>2</sup>Includes toll production.

<sup>3</sup>Includes shipments of those products produced on a toll basis by others.

<sup>4</sup>Data represent troy ounces.

<sup>5</sup>Aluminum ingot produced and consumed in the same plant totaled 515,259 short tons in 1963.

<sup>6</sup>Most of the aluminum ingot and billet (alloys) produced by aluminum rolling mills represent duplication of tonnages reported by the primary aluminum industry in that the metal produced by the rolling mills is made from ingot produced in primary aluminum plants.

<sup>7</sup>Aluminum extrusion billet produced and consumed in the same plant totaled 223,469 short tons in 1963.

<sup>8</sup>Includes shipments to other smelters and refiners, shipments to consumers and to some nonmanufacturing companies which sell direct to consumers.

<sup>9</sup>Excludes ingot and billet produced and consumed in aluminum rolling mills.



# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume 1, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume 1, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.

**U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233**

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-33D-1



INDUSTRY SERIES

preliminary  
report

## Copper rolling and drawing

SIC Code 3351

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Copper Rolling and Drawing Industry had total shipment valued at \$1,644 million, an increase of 36 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 3 percent from 1958 and 6 percent from 1962 to a total of 39 thousand employees in 1963. Value added by manufacture amounted to \$458 million in 1963, an increase of 3 percent from 1958 but a decrease of 4 percent from 1962.

The Copper Rolling and Drawing Industry includes establishments engaged primarily in rolling, drawing, and extruding copper, brass, bronze, and other copper base alloy basic shapes, such as plate, sheet, strip, bar, and tubing.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE COPPER ROLLING AND DRAWING INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3351)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	112	92	38,949	260,320	31,379	65,756	200,170	458,139	1,195,580	1,644,481	43,530	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	41,223	269,614	32,404	67,202	192,235	476,731	1,177,344	1,654,423	39,407	3
1961 <sup>2</sup> .....	(NA)	(NA)	39,417	250,060	30,854	62,931	175,081	473,525	1,017,457	1,479,605	(26,401)	2
1960 <sup>2</sup> .....	(NA)	(NA)	39,589	237,445	31,786	62,989	165,294	452,485	994,832	1,416,889	17,421	2
1959 <sup>2</sup> .....	(NA)	(NA)	43,122	260,085	34,598	72,492	198,973	553,938	1,092,183	1,639,306	25,326	1
1958.....	105	89	40,329	222,259	31,792	63,291	165,367	445,371	775,650	1,209,926	44,080	(X)
1954 <sup>3</sup> .....	89	77	41,906	195,225	34,072	68,017	147,874	422,916	912,290	1,334,360	30,540	(X)
1947 <sup>3</sup> .....	79	72	53,891	166,148	45,946	93,741	134,019	302,687	761,346	1,064,033	21,617	(X)
1939 <sup>3</sup> .....	57	(NA)	(NA)	(NA)	33,597	(NA)	48,288	135,642	214,503	350,145	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

June 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Copper Rolling and Drawing Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Copper Rolling and Drawing Industry amounted to \$1,644 million. Of this total, \$178 million were products primary to other industries; and \$92 million were receipts for miscellaneous activities. The industry shipments of primary products represent 89 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 88 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$1,529 million of brass mill shapes were shipped by all producers of these products. Of this total, \$1,375 million, or 90 percent, were shipped by plants classified in Industry 3351, Copper Rolling and Drawing while the remainder was shipped by plants classified in other industries. The comparable percentage for 1958 was 94.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into

account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965

through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE COPPER ROLLING AND DRAWING INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3351)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	112	92	38,949	260,320	31,379	65,756	200,170	458,139	1,195,580	1,644,481	43,530	40,329	445,371
New England.....	33	30	12,107	81,676	9,653	20,145	63,539	145,014	308,045	454,718	9,430	13,653	142,116
Connecticut.....	26	24	10,422	71,854	8,425	17,576	56,251	126,917	282,503	411,084	9,296	11,942	124,971
Middle Atlantic...	39	28	10,406	68,703	8,316	17,275	51,297	128,028	378,695	504,456	12,917	11,146	118,458
Pennsylvania.....	15	11	3,865	26,641	2,947	6,691	18,663	50,389	89,840	138,403	9,622	5,122	46,538
North Central, South, and West..	40	34	16,436	109,941	13,410	28,336	85,334	185,097	508,840	685,307	21,183	15,530	184,797
Ohio.....	6	6	2,767	17,520	2,407	4,820	14,541	34,317	69,008	102,675	1,273	2,731	30,246
Michigan.....	11	10	4,069	27,790	3,285	7,128	21,292	36,950	108,286	141,753	1,923	4,043	45,859
California.....	6	5	1,259	8,555	993	2,064	6,483	15,964	33,029	47,601	( <sup>1</sup> )	1,105	10,313

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF BRASS MILL SHAPES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Brass Mill Shapes Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963 <sup>1</sup>						
		Total shipments including interplant transfers <sup>2</sup>		Shipments to other countries		Interplant transfers		Produced and consumed in the same plant in the manufacture of other products (Short tons)
		Quantity (Short tons)	Value (\$1,000)	Quantity (Short tons)	Value (\$1,000)	Quantity (Short tons)	Value (\$1,000)	
3351- --	Copper rolling and drawing (brass mill shapes), total <sup>4</sup> .....	(NA)	1,528,902	(NA)	1,223,296	(NA)	305,606	248,538
33511 --	Copper wire, bare and tinned (nonelectrical)..	68,058	74,373	63,530	69,595	4,528	4,778	9,834
33511 11	Unalloyed.....	12,976	13,051					
33511 31	Alloyed.....	55,082	61,322					
33512 --	Copper mill shapes.....	(NA)	1,454,529	(NA)	1,153,701	(NA)	300,828	238,704
	Unalloyed:							
33512 11	Rod, bar, and shapes.....	534,626	370,390	190,391	140,647	344,235	229,743	157,771
33512 13	Flat products (sheet, strip, plate, etc.)..	122,441	122,272	118,645	119,024	3,796	3,248	3,302
33512 16	Pipe and tube, plumbing.....	239,534	246,224	230,278	235,993	9,256	10,231	
33512 18	Other pipe and tube.....	135,615	146,194	131,493	142,335	4,122	3,859	
	Alloyed:							
33512 32	Rod, bar and shapes.....	222,573	167,506	211,063	160,610	11,510	6,896	77,631
33512 35	Flat products (sheet, strip, plate), including military cups and disks.....	303,910	298,656	255,476	258,201	48,434	40,455	
33512 36	Pipe and tube, plumbing.....	15,545	19,456	75,140	94,765	6,699	6,396	
33512 38	Other pipe and tube.....	66,294	81,705					
33512 00	Copper mill shapes, not specified by kind...	(NA)	2,126	(NA)	2,126	-	-	-

Product code	Product	1958					
		Receipts <sup>3</sup>	Total shipments including interplant transfers <sup>2</sup>		Produced and consumed in the same plant in the manufacture of other products (Short tons)	Shipments of products manufactured from materials owned by others (Short tons)	
			Quantity (Short tons)	Value (\$1,000)			
3351- --	Copper rolling and drawing (brass mill shapes), total <sup>4</sup> .....	(X)	(NA)	1,034,397	(X)	(X)	
33511 --	Copper wire, bare and tinned (nonelectrical).....	(D)	45,383	47,864	(D)	(D)	
33511 11	Unalloyed.....	(D)	8,836	7,386	(D)	(D)	
33511 31	Alloyed.....	(D)	36,547	40,478	(D)	(D)	
33512 --	Copper mill shapes.....	(NA)	(NA)	986,551	(NA)	(NA)	
	Unalloyed:						
33512 11	Rod, bar, and shapes.....	498,313	272,562	170,294	3,131	262,420	
33512 13	Flat products (sheet, strip, plate, etc.).....	(D)	64,911	64,421		(D)	
33512 16	Pipe and tube, plumbing.....	19,507	221,503	260,807		8,086	
33512 18	Other pipe and tube.....						
	Alloyed:						
33512 32	Rod, bar and shapes.....	(NA)	249,036	169,706	(NA)	(NA)	
33512 35	Flat products (sheet, strip, plate), including military cups and disks.....	(D)	223,408	213,310		(D)	
33512 36	Pipe and tube, plumbing.....	11,697	82,599	104,979		4,241	
33512 38	Other pipe and tube.....						
33512 00	Copper mill shapes, not specified by kind.....	(NA)	(NA)	3,034	(NA)	(NA)	

- Represents zero. (D) Withheld to avoid disclosing figures for individual companies. (NA) Not available. (X) Not applicable.

<sup>1</sup>Data for production, receipts and toll shipments are excluded but will be included in the final report for this industry.

<sup>2</sup>Includes shipments of these products produced on a toll basis by others.

<sup>3</sup>Represents receipts at nonferrous metal mills and nonferrous wire drawing establishments.

<sup>4</sup>Data are also shown in Current Industrial Reports Series BDSAF-84, "Shipments of Copper-Base Mill and Foundry Products."

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR COPPER ROLLING AND DRAWING SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3351	Copper rolling and drawing.....1963...	129	100
	.....1958...	88	99
33511	Copper wire, bare and tinned (nonelectrical).....1963...	111	106
	.....1958...	74	102
33512	Copper mill shapes.....1963...	130	100
	.....1958...	89	99



# 1963 CENSUS OF MANUFACTURES

MC63(P)-33D-2



## INDUSTRY SERIES

**preliminary  
report**

### Aluminum rolling and drawing

SIC Code 3352

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Aluminum Rolling and Drawing Industry had total shipments valued at \$2,214 million, an increase of 42 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 18 percent from 1958 to a total of 55 thousand employees in 1963. Value added by manufacture amounted to \$733 million in 1963, an increase of 36 percent from 1958.

The Aluminum Rolling and Drawing Industry includes establishments engaged primarily in rolling, drawing and extruding aluminum and aluminum-base alloy basic shapes such as plate, sheet, bar, tubing and foil.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE ALUMINUM ROLLING AND DRAWING INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3352)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	211	151	55,247	383,238	43,481	92,151	282,642	732,784	1,532,597	2,214,273	81,680
1958 <sup>3</sup> .....	185	129	46,879	272,168	36,443	75,323	199,643	537,086	1,057,370	1,562,381	131,817

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

June 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Aluminum Rolling and Drawing Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Aluminum Rolling and Drawing Industry amounted to \$2,214 million. Of this total, \$297 million were products primary to other industries; and \$125 million were receipts for miscellaneous activities. The industry shipments of primary products represent 86 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$3,237 million of rolled, drawn and extruded aluminum were shipped by all producers of these products. Of this total, \$1,793 million, or 55 percent, were shipped by plants classified in Industry 3352, Aluminum Rolling and Drawing, while the remainder was shipped by plants classified in other industries, mainly Industries 3334, Primary Aluminum and 3341, Secondary Nonferrous Metals.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965



through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE ALUMINUM ROLLING AND DRAWING INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3352)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	211	151	55,247	383,238	43,481	92,151	282,642	732,784	1,532,597	2,214,273	81,680	46,879	537,086
New England.....	10	9	527	3,663	422	910	2,308	7,150	11,516	18,460	( <sup>1</sup> )	471	4,992
Middle Atlantic...	38	29	9,070	62,161	6,697	14,469	41,345	118,485	198,937	311,568	10,414	8,997	87,038
New York.....	15	12	3,207	20,651	2,423	4,910	14,216	48,637	92,830	141,982	2,026	2,978	32,174
New Jersey.....	13	9	2,063	14,250	1,543	3,926	9,422	29,784	31,574	58,788	1,674	1,991	20,921
Pennsylvania....	10	8	3,800	27,260	2,731	5,633	17,707	40,064	74,533	110,798	6,714	4,028	33,943
North Central.....	80	57	18,431	131,469	14,083	29,790	93,995	260,709	571,379	813,323	25,589	13,320	182,165
Ohio.....	22	18	4,180	28,352	3,133	6,459	20,082	55,737	192,193	248,412	7,016	3,138	56,854
Michigan.....	20	14	2,140	13,482	1,623	3,301	8,887	25,284	38,436	58,126	1,154	2,319	20,915
South and West....	83	56	27,219	185,945	22,279	46,982	144,994	346,440	750,765	1,070,922	45,214	24,091	262,891

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF ROLLED, DRAWN AND EXTRUDED ALUMINUM SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Aluminum Rolling and Drawing Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Shipments including interplant transfers <sup>1</sup>					
		Total		Shipments to other companies		Transfers to other plants of the same company	
		Quantity (short tons gross weight)	Value (\$1,000)	Quantity (short tons gross weight)	Value (\$1,000)	Quantity (short tons gross weight)	Value (\$1,000)
	1963 <sup>2</sup>						
3352- --	Aluminum rolling and drawing, total <sup>3</sup> .....	(X)	3,237,246	(X)	2,309,502	(X)	927,744
33521 --	Aluminum and aluminum-base alloy wire and cable (including ACSR).....	191,794	131,339	180,819	122,215	10,975	9,124
33571 --	Made in aluminum rolling mills (Industry 3352).....	81,114	60,620	75,218	35,115	5,896	5,505
33521 --	Made in nonferrous wire drawing (Industry 3357) and other industries.....	110,680	70,719	105,601	67,100	5,079	3,619
33521 11	Bare wire conductor.....	19,456	11,597	15,695	8,136	4,361	3,461
33521 51	Bare wire, other than conductor.....	23,238	27,147	19,442	23,178	3,796	3,969
33521 62	Aluminum cable, steel reinforced (ACSR).....	130,351	81,254	146,282	90,901	2,818	1,694
33521 69	Other aluminum cable, bare.....	18,749	11,341				
33522 --	Aluminum plate and sheet (including foil stock).....	(X)	852,811	(X)	716,743	(X)	136,068
	Plate:						
33522 13	Heat-treatable.....	44,157	51,811	101,669	104,334	5,485	6,308
33522 15	Nonheat-treatable.....	62,997	58,831				
	Sheet:						
33522 23	Flat, heat-treatable.....	82,518	80,092	351,597	288,670	28,303	21,486
33522 24	Flat, nonheat-treatable, bare.....	297,382	230,064				
33522 26	Flat, nonheat-treatable, precoated.....	20,141	18,256	440,209	305,388	156,296	107,004
33522 27	Coiled, heat-treatable.....	539,593	366,077				
33522 31	Coiled, nonheat-treatable, bare.....	56,912	46,315				
33522 33	Coiled, nonheat-treatable, precoated.....	(X)	1,365	(X)	1,365	-	-
33522 00	Aluminum plate and sheet, not specified by kind.....	(X)	1,365	(X)	1,365	-	-
33523 51	Plain aluminum foil (under .006").....	<sup>5</sup> 113,824	141,116	70,140	90,120	43,684	50,996
33524 --	Rolled aluminum rod, bar (including continuous cast) and structural shapes.....	(X)	145,157	(X)	61,615	(X)	83,542
	Rod and bar:						
33524 21	Rolled.....	203,637	139,511	73,527	61,461	136,147	83,542
33524 25	Continuous cast.....						
33524 31	Rolled structural shapes.....						
33524 00	Rolled aluminum rod, bar and structural shapes, not specified by kind.....	(X)	154	(X)	154	-	-
33525 --	Extruded aluminum rod, bar and other extruded shapes (except tube).....	(X)	394,084	(X)	370,719	(X)	23,365
	Extruded rod and bar:						
33525 15	Alloys other than 2000 and 7000 series.....	36,245	31,846	39,813	36,555	6,760	4,766
33525 18	Alloys in 2000 and 7000 series.....	10,328	9,475				
	Other extruded shapes (except tube):						
33525 25	Alloys other than 2000 and 7000 series.....	363,359	307,207	364,024	331,237	22,032	18,599
33525 28	Alloys in 2000 and 7000 series.....	22,697	42,629				
33525 00	Extruded rod, bar and other extruded shapes, not specified by kind.....	(X)	2,927	(X)	2,927	-	-
33526 --	Aluminum tube.....	(X)	139,584	(X)	127,708	(X)	11,876
33526 51	Extruded.....	75,406	64,808	133,756	126,889	9,843	11,876
33526 53	Drawn.....	44,697	55,070				
33526 55	Welded.....	23,496	18,887				
33526 00	Aluminum tube, not specified by kind.....	(X)	819	(X)	819	-	-
33527 --	Aluminum ingot.....	2,755,211	1,234,004	1,543,492	679,925	1,211,716	554,079
33527 11	Made in primary aluminum industry (Industry 3334).....	2,119,845	948,103	996,541	428,036	1,153,304	520,067
33527 11	Made in secondary nonferrous metals industry (Industry 3341).....	548,807	237,064	576,951	251,889	58,415	34,012
33527 11	Made in aluminum rolling mills (Industry 3352) <sup>6</sup> .....	86,559	48,837				
33528 --	Aluminum extrusion billet.....	418,201	188,238	294,924	129,544	123,277	58,694
33528 11	Made in primary aluminum industry (Industry 3334).....	272,092	122,908	193,561	86,354	78,531	36,554
33528 11	Made in nonferrous metal industry (Industry 3341).....	32,976	14,264	32,976	14,264	-	-
33528 11	Made in aluminum rolling mills (Industry 3352) <sup>6</sup> .....	113,133	51,066	68,387	28,926	44,746	22,140
33520 00	Aluminum rolling and drawing, not specified by kind.....	(X)	10,913	(X)	10,913	-	-
	1958 <sup>2</sup>						
3352- --	Aluminum rolling and drawing, total <sup>3</sup> .....	(X)	1,472,252	(X)	(NA)	(X)	(X)
33521 --	Aluminum and aluminum-base alloy wire and cable (including ACSR)....	131,130	100,921	(NA)	(NA)	(NA)	(NA)
33571 --	Made in aluminum rolling mills (Industry 3352).....	55,440	46,896	56,460	44,625	1,980	2,271
33521 --	Made in nonferrous wire drawing (Industry 3357) and other industries.....	75,690	54,025	67,266	46,826	8,424	7,199
33521 11	Bare wire conductor.....	17,776	13,395	9,479	6,346	8,297	7,049
33521 51	Bare wire, other than conductor.....	20,746	25,134	18,639	22,713	2,107	2,421
33521 61	Aluminum cable, steel reinforced (ACSR) and other aluminum cable bare.....	<sup>4</sup> 792,608	62,392	(NA)	(NA)	(NA)	(NA)

See footnotes at end of table.

Table 3.—QUANTITY AND VALUE OF ROLLED, DRAWN AND EXTRUDED ALUMINUM SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Shipments including interplant transfers <sup>1</sup>					
		Total		Shipments to other companies		Transfers to other plants of the same company	
		Quantity (short tons gross weight)	Value (\$1,000)	Quantity (short tons gross weight)	Value (\$1,000)	Quantity (short tons gross weight)	Value (\$1,000)
	1958 <sup>2</sup> —Continued						
33522 --	Aluminum plate and sheet <sup>8</sup> .....	(NA)	646,064	(NA)	(NA)	(NA)	(NA)
	Plate (.250" and over):						
33522 13	Heat-treatable.....	32,641	36,227	27,513	31,604	5,128	4,623
33522 15	Nonheat-treatable.....	20,378	19,353	15,747	15,687	4,631	3,666
	Sheet:						
33522 23	Flat, heat-treatable.....	59,217	67,004	(D)	(D)	(D)	(D)
33522 25	Flat, nonheat-treatable, bare.....	179,290	163,938	160,290	147,792	19,000	16,146
33522 27	Coiled, heat-treatable.....	5,917	5,893	5,917	5,893	-	-
33522 28	Coiled, nonheat-treatable.....	335,017	276,002	286,766	238,232	48,251	37,770
33522 51	Foil stock.....	105,696	74,545	22,404	16,177	83,292	58,368
33522 00	Aluminum plate and sheet, not specified by kind.....	(X)	3,102	(X)	(X)	(X)	(X)
33523 --	Plain aluminum foil <sup>8 9</sup> .....	592,756	140,472	(NA)	(NA)	(NA)	(NA)
33523 11	Condenser foil.....	3,457	7,104	(NA)	(NA)	(NA)	(NA)
33523 15	All other plain foil.....	68,998	96,581	(NA)	(NA)	(NA)	(NA)
33523 21	Laminated foil.....	1020,301	36,787	(NA)	(NA)	(NA)	(NA)
33524 --	Rolled aluminum rod, bar (including continuous cast) and structural shapes <sup>8</sup> .....	135,610	110,523	(D)	(D)	(D)	(D)
33524 11	Aluminum rod and bar, rolled and continuous cast.....	130,210	104,286	72,377	63,521	57,833	40,765
33524 31	Aluminum rolled structural shapes.....	5,400	6,237	(D)	(D)	(D)	(D)
33525 11	Extruded rod, bar and other extruded shapes (except tube) <sup>8</sup> .....	268,594	272,107	245,086	251,180	25,868	20,927
33526 --	Aluminum tube <sup>8</sup> .....	72,115	89,555	(D)	(D)	(D)	(D)
33526 51	Extruded.....	33,185	38,869	(D)	(D)	(D)	(D)
33526 53	Drawn.....	31,852	44,240	(D)	(D)	(D)	(D)
33526 55	Welded.....	7,098	6,446	(D)	(D)	(D)	(D)
33520 --	Aluminum-base alloys and aluminum and aluminum-base alloy mill products (rolled, drawn, and extruded), not specified by kind.....	(X)	112,610	(X)	(X)	(X)	(X)
33520 11	Aluminum-base alloys <sup>11</sup> .....	186,791	101,739	101,615	53,343	85,176	43,396
33520 00	Aluminum and aluminum-base alloy mill products, not specified by kind.....	(X)	10,871	(X)	(X)	(X)	(X)

-- Represents zero. (D) Withheld to avoid disclosing figures for individual companies. (NA) Not available. (X) Not applicable.

<sup>1</sup>Includes shipments of these products produced on a toll basis by others.

<sup>2</sup>In 1963, there were 515,259 short tons of aluminum ingot and 223,469 short tons of aluminum extrusion billet produced and consumed in the same plant. Otherwise, data for receipts, toll shipments and quantities produced and consumed in the same plant are excluded for 1963 but will be included in the final report for this industry. In 1958, data for receipts, and quantities produced and consumed in the same plant are not available. See footnote 8, for data on toll shipments in 1958.

<sup>3</sup>Data are also shown in Current Industrial Reports Series M33-2, "Aluminum Ingot and Mill Products."

<sup>4</sup>Data for ACSR and aluminum cable, bare, are also published monthly in Current Industrial Reports Series M33-2, "Aluminum Ingot and Mill Products." Net quantity of shipments as reported in this series for the year 1963 and 1958 totaled 136,127 short tons and 87,424 short tons, respectively. However, these quantities represent aluminum content only. The 149,100 short tons and 92,608 short tons reported in the Census of Manufactures for 1963 and 1958, respectively, represent gross weight.

<sup>5</sup>Differs from quantity data published in Current Industrial Reports Series M33-2, "Aluminum Ingot and Mill Products," in that no data are included in the plain aluminum foil figures for that quantity of plain foil which is produced and converted in the same establishment. As shown in the Current Industrial Reports, net shipments of aluminum foil totaled 161 thousand short tons in 1963 and 100 thousand short tons in 1958.

<sup>6</sup>Most of the aluminum ingot and billet (alloys) produced by aluminum rolling mills represent duplication of tonnages reported by the primary aluminum industry in that the metal produced by the rolling mills is made from ingot produced in primary aluminum plants.

<sup>7</sup>Excludes an unspecified amount of ACSR produced on a toll basis. The tonnage is included in the Current Industrial Reports.

<sup>8</sup>Toll shipments of the products included in product classes 33522, 33523, 33524, 33525 and 33526 totaled 31,747 short tons in 1958. Toll shipments data are not available for product class 33521 and product code 3352011.

<sup>9</sup>Quantity figures are shown in terms of metal weight.

<sup>10</sup>Laminated foil made from purchased aluminum foil totaled 8,113 short tons metal content valued at \$17,497 thousand.

<sup>11</sup>Represents aluminum-base alloys made only by establishments classified in Industry 3352, Aluminum Rolling and Drawing. Comparable shipments for plants classified in Industries 3334, Primary Aluminum and 3341, Secondary Nonferrous Metals, and other industries are as follows:

	Total shipments		Other Companies		Interplant transfers	
	Quantity	Value	Quantity	Value	Quantity	Value
Industry 3334.....	508,189	260,838	156,525	82,463	351,664	178,375
Industry 3341.....	311,359	140,471	302,036	135,745	9,323	4,726
All other industries.....	10,704	4,647	10,704	4,647	-	-





# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.

**U.S. DEPARTMENT OF COMMERCE**

**BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233**

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-33D-3



INDUSTRY SERIES

preliminary  
report

## Rolling and drawing, n.e.c.

SIC Code 3356

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Rolling and Drawing, N.E.C., Industry had total shipments valued at \$639 million, an increase of 31 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 6 percent from 1958 but a decrease of 6 percent from 1962 to a total of 17 thousand employees in 1963. Value added by manufacture amounted to \$246 million in 1963, an increase of 41 percent from 1958 and 14 percent from 1962.

The Rolling and Drawing, N.E.C., Industry includes establishments engaged primarily in rolling, drawing, and extruding nonferrous metals other than copper (Industry 3351), and aluminum (Industry 3352). The products of this industry are produced in the form of basic shapes, such as plate, sheet, strip, bar, and tubing. Establishments primarily engaged in recovering nonferrous metals and alloys from scrap or dross are classified in Industry 3341; in manufacturing gold, silver, tin, and other foils except aluminum in Industry 3497; and aluminum foil in Industry 3352.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.— GENERAL STATISTICS FOR THE ROLLING AND DRAWING, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3356)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	127	69	17,485	118,042	12,367	25,560	74,478	246,235	407,882	639,425	22,217	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	18,580	124,556	12,919	26,910	82,147	216,562	480,425	687,713	24,640	5
1961 <sup>2</sup> .....	(NA)	(NA)	18,411	119,969	12,707	25,967	74,689	222,859	452,341	660,990	22,560	5
1960 <sup>2</sup> .....	(NA)	(NA)	17,504	110,716	12,154	24,420	67,671	185,239	423,091	608,175	14,141	4
1959 <sup>2</sup> .....	(NA)	(NA)	17,764	108,813	12,608	25,672	68,224	216,887	395,030	596,196	(13,531)	2
1958.....	143	73	16,571	94,713	11,467	22,542	57,446	174,633	306,634	486,308	14,984	(X)
1954 <sup>3,4</sup> ...	105	67	11,954	57,841	8,798	18,277	36,788	126,018	278,275	403,359	13,564	(X)

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

<sup>4</sup>Data for earlier years are not available on a comparable basis.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of

products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Rolling and Drawing, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Rolling and Drawing, N.E.C., Industry amounted to \$639 million. Of this total, \$103 million were products primary to other industries; and \$26 million were receipts for miscellaneous activities. The industry shipments of primary products represent 83 percent of the total manufactured products shipments, primary and secondary. The 1958 ratio was 77 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$624 million of nonferrous mill shapes, except copper and aluminum were shipped by all producers of these products. Of this total, \$511 million, or 82 percent, were shipped by plants classified in Industry 3356, Rolling and Drawing, N.E.C., while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 82.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary

industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE ROLLING AND DRAWING, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3356)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	127	69	17,485	118,042	12,367	25,560	74,478	246,235	407,882	639,425	22,217	16,571	174,633
New England.....	21	14	1,767	10,066	1,367	2,914	6,790	22,883	71,066	92,465	1,174	1,686	16,645
Massachusetts.....	9	7	890	4,671	695	1,511	3,226	7,720	22,080	29,785	(1)	762	6,780
Middle Atlantic...	41	20	4,049	27,817	2,661	5,491	16,171	55,909	124,287	176,897	2,324	4,198	37,663
Pennsylvania....	8	4	1,687	11,978	1,075	2,345	6,549	21,569	18,188	39,987	1,258	2,069	16,706
North Central.....	65	35	11,669	80,159	8,339	17,155	51,517	167,443	212,529	370,063	18,719	10,687	120,325
South.....													
West.....													
Illinois.....	10	5	1,326	7,804	945	1,545	4,761	18,339	30,599	50,559	(1)	1,540	17,440

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF NONFERROUS MILL SHAPES, EXCEPT COPPER AND ALUMINUM SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958  
(Includes quantity and value of these products reported not only by establishments classified in the Rolling and Drawing, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963 <sup>1</sup>			1958 Total shipments including interplant transfers <sup>3</sup>	
		Production for all purposes <sup>2</sup> (short tons)	Total shipments including interplant transfers		Quantity (short tons)	Value (\$1,000)
			Quantity (short tons)	Value (\$1,000)		
3356- --	Rolling, drawing, and extruding of nonferrous metals, except copper and aluminum, total.....	(X)	(X)	624,076	(X)	428,210
33560 43	Magnesium and magnesium-base alloy mill shapes: <sup>4</sup>					
33560 44	Extruded shapes, including rod and bar.....	12,810	12,764	18,211	59,564	519,879
	Other (sheet, plate, etc.), excluding powder.....					
	Lead and lead-base alloy mill shapes:					
33560 51	Plate, sheet, and strip.....	25,693	24,024	7,643	19,005	6,432
33560 55	Pipe and tubing, traps, and bends.....	16,526	17,031	6,955	21,580	7,992
33560 59	Other rolled, drawn, or extruded lead products.....	22,365	22,195	12,810	8,067	5,491
33560 61	Nickel and nickel-base alloy mill shapes, including monel:					
33560 63	Plate, sheet, and strip, excluding monel.....	10,728	10,669	35,574	8,124	29,086
33560 65	Pipe and tubing, excluding monel.....	5,219	5,261	23,242	3,543	12,386
33560 69	Monel, all shapes and forms.....	37,964	37,090	103,414	28,183	69,987
	Rod, bar, and other, excluding monel.....					
33560 71	Zinc and zinc-base alloy mill shapes, including plate, sheet, strip, rods, bars, pipe, and tubing.....	34,873	34,945	16,042	636,536	615,614
33560 72	Titanium: <sup>7</sup>					
33560 74	Forging and extrusion billet.....	2,905	2,348	14,496	(NA)	( <sup>8</sup> )
33560 79	Ingot.....	(NA)	(NA)	66,888	(NA)	14,765
	Other titanium mill products (sheet, plate, tubing, bar, etc.)...	(NA)	(NA)		(NA)	855,916
33560 83	Precious metal mill shapes, including gold, silver, and platinum...	(NA)	(NA)	193,814	(NA)	( <sup>9</sup> )
33560 92	Other nonferrous metal wire, total.....	(NA)	(NA)	44,488	(NA)	33,177
33573 11		(NA)	(NA)	12,415	(NA)	7,850
33560 92		(NA)	(NA)	32,073	(NA)	1025,327
33573 11	Made in rolling and drawing, n.e.c., (Industry 3356).....	(NA)	(NA)	64,459	(NA)	9143,205
33573 11	Made in nonferrous wire drawing (Industry 3357) and other industries.....	(NA)	(NA)	16,040	(X)	14,280
33560 98	Other shapes.....	(NA)	(NA)			
33560 00	Rolling and drawing, n.e.c., not specified by kind.....	(X)	(X)			

(NA) Not available. (X) Not applicable.

<sup>1</sup>Data for toll shipments and quantities produced and consumed in the same plant are excluded but will be included in the final report for this industry.

<sup>2</sup>Includes toll production.

<sup>3</sup>Includes shipments of these products produced on a toll basis by others.

<sup>4</sup>Data are also published in Current Industrial Reports Series M33G, "Magnesium Mill Products."

<sup>5</sup>Consists of 5,336 short tons valued at \$10,465 thousand shipped to other companies and 4,228 short tons valued at \$9,414 thousand shipped as transfers to other plants of the same company.

<sup>6</sup>Consists of 34,973 short tons valued at \$15,137 thousand shipped to other companies and 1,563 short tons valued at \$477 thousand shipped as transfers to other plants of the same company.

<sup>7</sup>Data are also published in Current Industrial Reports Series BDSAF-263, "Titanium Ingot and Mill Products."

<sup>8</sup>In 1958 data for titanium forging and extrusion billet are included with other titanium mill products.

<sup>9</sup>In 1958 data for precious metal mill shapes are included with other nonferrous metals, code 3356098.

<sup>10</sup>Includes \$20,371 thousand produced in Industry 3357, Nonferrous Wire Drawing, Etc.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-33D-4



INDUSTRY SERIES

preliminary  
report

## Nonferrous wire drawing, etc.

SIC Code 3357

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Nonferrous Wire Drawing, Etc., Industry had total shipments valued at \$2,071 million, an increase of 41 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 6 percent from 1958 and 1 percent from 1962 to a total of 55 thousand employees in 1963. Value added by manufacture amounted to \$679 million in 1963, an increase of 28 percent from 1958 and 5 percent from 1962.

The Nonferrous Wire Drawing, Etc., Industry includes establishments engaged primarily in drawing, drawing and insulating, and insulating wire and cable of nonferrous metals from purchased wire bars, rods, or wire.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE NONFERROUS WIRE DRAWING, ETC., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3357)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	297	225	55,107	330,968	42,631	88,296	234,633	678,890	1,403,422	2,070,667	42,847	(X)
1962 <sup>2</sup> r....	(NA)	(NA)	54,722	329,730	42,437	87,841	230,674	649,343	1,253,894	1,895,947	45,478	3
1961 <sup>2</sup> r....	(NA)	(NA)	52,895	301,952	40,494	83,147	210,264	482,937	1,122,004	1,862,140	43,524	2
1960 <sup>2</sup> r....	(NA)	(NA)	55,252	311,303	42,081	87,850	217,791	619,750	1,126,789	1,744,782	42,930	2
1959 <sup>2</sup> r....	(NA)	(NA)	55,023	302,743	44,490	89,711	215,982	629,933	1,125,890	1,750,480	42,057	1
1958 <sup>3</sup> r....	278	182	51,900	271,910	39,762	81,711	190,988	530,105	941,347	1,465,999	35,359	(X)

(NA) Not available. (X) Not applicable. <sup>2</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1959 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

August 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, A. Ross Eckler, Director



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Nonferrous Wire Drawing, Etc., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Nonferrous Wire Drawing, Etc., Industry amounted to \$2,071 million. Of this total, \$212 million were products primary to other industries; and \$48 million were receipts for miscellaneous activities. The industry shipments of primary products represent 90 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$2,158 million of drawn and insulated nonferrous wire were shipped by all producers of these products. Of this total, \$1,811 million, or 84 percent were shipped by plants classified in Industry 3357, Nonferrous Wire Drawing, Etc., while the remainder was shipped by plants classified in other industries. The 1958 ratio was 83 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.



The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of

the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE NONFERROUS WIRE DRAWING, ETC., INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3357)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	297	225	55,107	330,968	42,631	88,296	234,633	678,890	1,403,422	2,070,667	42,847	51,900	530,105
New England.....	77	63	15,917	83,957	12,385	25,084	58,181	152,141	228,367	375,003	9,717	15,174	133,528
Massachusetts....	31	26	6,198	31,475	4,637	9,352	21,393	52,238	70,813	122,046	3,843	5,084	40,867
Rhode Island.....	13	11	4,966	24,557	4,170	8,391	18,426	42,471	80,758	120,261	2,881	5,030	42,137
Connecticut.....	26	19	3,999	23,611	3,048	6,299	16,034	50,188	63,212	112,275	2,491	4,061	38,619
Middle Atlantic...	87	67	18,350	113,846	13,962	28,627	79,564	200,870	465,497	658,917	14,866	19,794	206,667
New York.....	38	26	9,522	60,362	7,271	14,566	42,140	101,545	237,143	339,829	7,307	8,439	84,104
New Jersey.....	35	28	6,403	41,191	4,684	9,857	28,235	80,937	188,922	262,564	6,177	8,711	99,712
Pennsylvania....	14	13	2,425	12,293	2,007	4,204	9,189	18,388	39,434	56,504	1,382	2,644	22,851
North Central.....	73	55	13,903	88,095	10,879	23,172	65,076	218,003	499,308	713,445	8,833	10,888	123,696
Indiana.....	14	12	5,403	34,666	4,446	9,384	27,554	86,615	214,050	298,858	2,696	4,901	54,698
Illinois.....	30	24	4,379	28,362	3,214	6,979	18,874	72,829	147,589	220,395	3,541	3,020	40,476
South.....	22	16	4,355	29,178	3,415	7,222	21,093	76,392	140,382	221,529	6,705	3,370	41,404
Texas.....	5	4	653	3,712	569	1,323	3,067	13,415	26,869	39,958	810	420	5,556
Pacific.....	38	24	2,582	15,892	1,990	4,191	10,719	31,484	69,868	101,773	2,726	2,674	24,810

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)



Table 3.—QUANTITY AND VALUE OF DRAWN AND INSULATED NONFERROUS WIRE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Nonferrous Wire Drawing, Etc., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers <sup>1</sup>		Shipments to other companies		Transfers to other plants of the same company		Produced and consumed in the same plant in the manufacture of other products (short tons)
		Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)	
		1963						
3357- --	Nonferrous wire drawing, etc., total....	(NA)	2,158,352	(NA)	(NA)	(NA)	(NA)	(NA)
33571 --	Aluminum and aluminum-base alloy wire and cable (including ACSR): <sup>2</sup> Made in nonferrous wire drawing (Industry 3357) and other industries..... Made in aluminum rolling mills (Industry 3352)..... Total for all industries.....							
33521 --								
33571 --								
33521 --								
33571 11	Bare wire conductor.....	19,456	11,597	15,095	8,136	4,361	3,461	42,708
33571 51	Bare wire, other than conductor.....	23,238	27,447	19,442	23,478	3,796	3,969	2,138
33571 61	Aluminum cable, steel reinforced (ACSR)....	<sup>3</sup> 41,30,351	81,254	146,282	90,901	2,818	1,694	8,559
33571 65	Other aluminum cable, bare.....	<sup>3</sup> 418,749	11,341					
33572 --	Copper and copper-base alloy wire (including strand and cable), bare, and tinned, for electrical transmission <sup>3</sup> .....	(X)	237,094	(X)	(X)	(X)	(X)	(X)
33572 11	Wire, alloyed, for electrical transmission.	223,718	175,169	140,574	109,513	83,144	65,656	146,015
33572 51	Wire, alloyed, for electrical transmission.	(NA)	7,127	(D)	(D)	(D)	(D)	(D)
33572 71	Strand and cable.....	59,305	54,264	43,100	40,747	16,205	13,517	199,032
33572 00	Other copper and copper base-alloy wire, not specified by kind.....	(X)	534	(X)	(X)	(X)	(X)	(X)
		1958						
3357- --	Nonferrous wire drawing, etc., total....	(NA)	1,634,961	(NA)	(NA)	(NA)	(NA)	(NA)
33571 --	Aluminum and aluminum-base alloy wire and cable (including ACSR): <sup>2</sup> Made in nonferrous wire drawing (Industry 3357) and other industries..... Made in aluminum rolling mills (Industry 3352)..... Total for all industries.....							
33521 --								
33571 --								
33521 --								
33571 11	Bare wire conductor.....	17,776	13,395	9,479	6,346	8,297	7,049	(NA)
33571 51	Bare wire, other than conductor.....	20,746	25,134	18,639	22,713	2,107	2,421	(NA)
33571 61	Aluminum cable, steel reinforced (ACSR)....	<sup>3</sup> 492,608	62,392	92,608	62,392	-	-	-
33571 65	Other aluminum cable, bare.....							
33572 --	Copper and copper-base alloy wire (including strand and cable), bare, and tinned, for electrical transmission <sup>3</sup> .....	(NA)	156,493	(D)	(D)	(D)	(D)	(D)
33572 11	Wire, alloyed, for electrical transmission.	172,920	131,117	89,477	74,243	83,443	56,874	438,061
33572 51	Wire, alloyed, for electrical transmission.	5,185	4,575	4,376	3,818	809	757	28,350
33572 71	Strand and cable.....	23,874	20,375	9,664	9,665	14,210	10,710	(D)
33572 00	Other copper and copper-base alloy wire, not specified by kind.....	(X)	426	(X)	(NA)	(X)	(NA)	(X)

See footnotes at end of table.

Table 3.—QUANTITY AND VALUE OF DRAWN AND INSULATED NONFERROUS WIRE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
33573 --	Other bare nonferrous metal wire, except insulated:					
33560 --						
33573 --		Made in nonferrous wire drawing (Industry 3357) and other industries....	(X)	30,187	(X)	<sup>2</sup> 25,327
33560 --		Made in rolling and drawing, n.e.c., (Industry 3356).....	(X)	15,413	(X)	7,850
	Total for all industries.....		(X)	45,600	(X)	33,177
33575 --	Nonferrous wire cloth and other woven wire products:					
34815 --						
33575 --		Made in nonferrous wire drawing (Industry 3357).....	(X)	44,414	(X)	49,113
34815 --		Made in fabricated wire products, n.e.c., (Industry 3481) and other industries.....	(X)	20,327	(X)	<sup>r</sup> 9,983
	Total for all industries.....		(X)	64,741	(X)	<sup>r</sup> 59,096
	Insect wire screening, nonferrous:					
33575 25	Aluminum.....	1,000 sq. ft.	459,123	21,216	305,356	18,239
33575 23	Copper and copper-base alloy.....	..do.....	(NA)	804	(NA)	2,921
33575 29	Other nonferrous.....	..do.....	(NA)		(NA)	(NA)
33575 51	Paper machine wire cloth (fourdrinier and cylinder).....	..do.....	20,299	28,691	22,976	30,902
33575 65	Industrial wire cloth, nonferrous.....	..do.....	13,452	10,985	<sup>6</sup> 8,496	7,034
33575 00	Nonferrous wire cloth and other woven wire products, not specified by kind.....	..do.....	(X)	3,045	(X)	(NA)
33574 --	Communication wire and cable.....		(X)	<sup>7</sup> 576,615	(X)	365,373
	Metal content of communication wire and cable reported by detail type below:					
33574 01	Copper.....	1,000 lbs....	375,875	(X)	(NA)	(X)
33574 05	Aluminum.....	..do.....	14,176	(X)	(NA)	(X)
	Coaxial cable (armored and nonarmored):					
33574 11	Rigid plus semi-flexible.....		(X)	31,898	(X)	15,133
33574 12	Flexible.....		(X)	44,935		
33574 22	Lead-in wire.....		(X)	9,183		
	Hook-up wire (single and multi-conductor):					
33574 24	200°C and over temperature rating.....		(X)	23,653	(X)	31,023
33574 26	Under 200°C temperature rating.....		(X)	15,187		
33574 41	Jumper and distributing frame wire, including bank, handformed, push-back.....		(X)	5,874	(X)	20,002
33574 52	Inside wiring cable.....		(X)	12,625	(X)	25,138
33574 55	Drop and bridle and duct wire and cable.....		(X)	14,778	(X)	22,629
33574 71	Switchboard wire and cable.....		(X)	42,814	(X)	
	Lead-covered telephone cable, except coaxial:					
33574 73	Paper and pulp insulated.....		(X)	10,224	(X)	52,438
33574 75	Polyethylene insulated.....					
	Polyethylene covered telephone cable and telegraph cable, excluding coaxial:					
33574 81	Paper and pulp insulated.....		(X)	244,143	(X)	60,890
33574 85	Polyethylene insulated.....				(X)	92,945
33574 27	Instrumentation wire and cable.....		(X)	18,295		
33574 68	Rural and urban distribution wire and cable.....		(X)	19,841	(X)	42,689
33574 43	Station wire and cable.....		(X)	80,572		
33574 98	Other communication wire and cable.....		(X)	2,593	(X)	2,486
33574 00	Communication wire and cable, not specified by kind.....		(X)	<sup>7</sup> 258,588	(X)	183,382
33577 --	Magnet wire.....					
	Metal content of magnet wire reported by detail type below:					
33577 01	Copper.....	1,000 lbs....	368,335	(X)	(NA)	(X)
33577 05	Aluminum.....	..do.....	(D)	(X)	(NA)	(X)
33577 11	Round enameled, under 180°C.....	1,000 lbs. gross weight	113,743	67,642		
33577 13	Round enameled, 180°C and over, including aromatic polyimide but excluding fluorocarbon and ceramic.....	..do.....	20,925	12,857		
33577 15	Round textile covered-bare and enameled, including synthetic.....	..do.....	8,185	7,740		
33577 17	Round asbestos or glass insulated-bare and enameled, including synthetic.....	..do.....	2,119	3,518		
33577 18	Round class A 105C (vinyl acetal, vinyl acetal with nylon and acrylic)....	..do.....	98,241	58,328		
33577 31	Round classes B and F, 130-155C (polyester, epoxy, and acrylic).....	..do.....	42,125	24,499	(X)	179,354
33577 33	Round solderable class A 105C (nylon polyurethane and cellulose acetate)....	..do.....	51,509	34,329		
33577 35	Round self-bonding class A 105C (vinyl acetal plus a bonding thermoplastic).....	..do.....	12,234	8,761		
33577 37	Rectangular and square film coated with or without covering.....	..do.....	35,517	18,056		
33577 38	Rectangular and square paper and/or cotton, no film.....	..do.....	17,259	8,585		
33577 41	Rectangular and square glass, dacron glass, or asbestos, no film.....	..do.....	9,736	6,679		
33577 43	Ceramic and fluorocarbon magnet wire.....	..do.....	44	483		
33577 00	Magnet wire, not specified by kind.....		(X)	7,111	(X)	4,028
33578 --	Power wire and cable.....		(X)	<sup>7</sup> 210,061	(X)	194,761
	Metal content of power wire and cable reported by detailed type below:					
33578 01	Copper.....	1,000 lbs....	178,704	(X)	(NA)	(X)
33578 05	Aluminum.....	..do.....	(D)	(X)	(NA)	(X)
	Under 601 volts:					
33578 11	Portable power cable.....		(X)	26,254	(X)	19,705
33578 13	Varnished cloth insulated, including glass.....		(X)	2,169	(X)	3,280
33578 15	Thermoplastic.....		(X)	18,349	(X)	11,202
33578 17	Rubber.....		(X)	43,013	(X)	55,808
33578 18	Asbestos and asbestos-varnished cloth.....		(X)	7,943	(X)	5,737
33578 14	Thermosetting insulated.....		(X)	11,462		
33578 19	Other, including machine tool wire.....		(X)	5,378	(X)	1,740

See footnotes at end of table.

Table 3.—QUANTITY AND VALUE OF DRAWN AND INSULATED NONFERROUS WIRE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
	Power wire and cable—Continued					
	601 volts and higher:					
33578 31	Portable power cable.....		(X)	5,340	(X)	5,751
33578 33	Varnished cloth insulated, including glass.....		(X)	3,120	(X)	6,581
33578 35	Paper insulated.....		(X)	48,630	(X)	39,146
33578 37	Rubber.....		(X)	19,140	(X)	37,903
33578 38	Thermoplastic.....		(X)	8,860	(X)	5,359
33578 36	Thermosetting insulated.....		(X)	7,043		
33578 39	Other power wire and cable, 601 volts and higher.....		(X)	1,458	(X)	2,549
33578 00	Power wire and cable, not specified by kind.....		(X)	1,902	(X)	-
33579 --	Other insulated wire and cable.....		(X)	7452,411	(X)	7404,512
	Metal content of other insulated wire and cable reported by detail type below:					
33579 01	Copper.....	1,000 lbs....	420,740	(X)	(NA)	(X)
33579 05	Aluminum.....	do.....	56,312	(X)	(NA)	(X)
33579 08	Service cable, including self supports but excluding service entrance and service drop cable.....		(X)	8,660	(X)	28,053
33579 11	Signal wire and cable.....		(X)	10,360	(X)	7,411
33579 15	Control wire and cable.....		(X)	20,822	(X)	21,742
	Weather-proof and service drop cable:					
33579 31	Braided.....		(X)	9,617	(X)	16,478
33579 37	Polychloroprene (neoprene).....		(X)	9,857	(X)	11,527
33579 38	Thermoplastic.....		(X)	10,247		
33579 39	Service drop.....		(X)	21,269	(X)	9,983
	Building wire and cable having underwriters' labels (except varnished cambric insulated and service cable):					
33579 41	Rubber insulated.....		(X)	50,694	(X)	56,653
33579 42	Metallic armored cable.....		(X)	16,468	(X)	16,610
33579 43	Nonmetallic sheathed cable.....		(X)	81,970	(X)	66,330
33579 46	Service entrance cable.....		(X)	20,302	(X)	18,109
33579 48	Thermoplastic.....		(X)	97,558	(X)	52,844
33579 49	Other building wire and cable (except varnished cambric insulated)....		(X)	5,209	(X)	10,118
	Automotive, airframe, shipboard, and ground support cable, excluding coaxial cable:					
33579 89	Shipboard cable (Navy and Merchant Marine).....		(X)	17,192		
33579 71	Automotive.....		(X)	15,826	(X)	10,187
33579 74	Airframe and missile.....		(X)	11,195		
33579 91	Missile ground support cable.....		(X)	7,917	(X)	77,543
33579 98	Other insulated wire and cable.....		(X)	26,106		
33579 00	Other insulated wire and cable, not specified by kind.....		(X)	11,142	(X)	924
33576 --	Appliance wire and cord and flexible cord sets:					
36996 --	Made in nonferrous wire drawing etc., (Industry 3357).....		(X)	102,136		66,199
33576 --	Made in electric products, n.e.c., (Industry 3699) and other industries.....		(X)	63,928	(X)	60,870
36996 --	Total for all industries.....		(X)	166,064	(X)	127,069
	Flexible cord sets (including heater cord):					
33576 13	Rubber insulated.....		(X)	24,838		
33576 15	Thermoplastic insulated.....		(X)	39,957	(X)	48,169
33576 21	Appliance wire and cord:					
	Fixture wire (including heater resistant).....		(X)	18,153	(X)	8,405
	Flexible cord (including heater cord):					
33576 22	Rubber insulated.....		(X)	22,766	(X)	16,205
33576 25	Thermoplastic insulated.....		(X)	26,862	(X)	10,925
33576 29	Other appliance wire and cord.....		(X)	23,306	(X)	36,173
33576 00	Appliance wire and cord and flexible cord sets, not specified by kind...		(X)	10,182	(X)	7,192
33570 00	Drawn and insulated nonferrous wire, not specified by kind.....		(X)	15,539	(X)	10,177

- Represents zero. n.e.c. Not elsewhere classified. (D) Withheld to avoid disclosing figures for individual companies. (NA) Not available. (X) Not applicable. <sup>1</sup>Revised.

<sup>1</sup>Includes shipments of these products produced on a toll basis by others.

<sup>2</sup>Data for production, receipts and toll shipments are excluded but will be included in the final report for this industry.

<sup>3</sup>Data for ACSR and aluminum cable, bare, are also published monthly in Current Industrial Reports Series M33-2, "Aluminum Ingot and Mill Products, and Magnesium Products." Net quantity of shipments as reported in this series for the year 1963 and 1958 totaled 136,127 short tons and 87,424 short tons respectively. However, these quantities represent aluminum content only. The 149,100 short tons and 92,608 short tons reported in the census of manufactures for 1963 and 1958, respectively, represent gross weight.

<sup>4</sup>Excludes an unspecified amount of ACSR produced on a toll basis. This tonnage is included in the Current Industrial Reports.

<sup>5</sup>Includes \$20,371 thousand produced in Industry 3357, Nonferrous Wire Drawing, Etc.

<sup>6</sup>This quantity was valued at \$5,599 thousand. The remaining \$1,435 thousand was reported without quantity.

<sup>7</sup>Of these totals, the following figures represent the value of shipments of insulated wire and cable transferred from plant of a company to another plant of the same company:

Product class code	Thousands of dollars
33574.....	18,443
33577.....	67,149
33578.....	5,460
33579.....	12,261





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OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-33D-5



INDUSTRY SERIES

preliminary  
report

## Aluminum castings

SIC Code 3361

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Aluminum Castings Industry had total shipments valued at \$636 million, an increase of 51 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 20 percent from 1958 to a total of 36 thousand employees in 1963. Value added by manufacture amounted to \$341 million in 1963, an increase of 51 percent from 1958.

The Aluminum Castings Industry includes establishments engaged primarily in the manufacture of castings (including die castings) of aluminum.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE ALUMINUM CASTINGS INDUSTRY IN THE UNITED STATES: 1958 AND 1963

(SIC 3361)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>2</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	951	319	35,970	221,667	30,541	63,186	173,495	341,000	298,046	635,934	18,293
1958 <sup>3</sup> .....	955	283	30,045	158,915	24,626	48,683	119,166	225,686	198,560	422,041	12,220

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Aluminum Castings Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Aluminum Castings Industry amounted to \$636 million. Of this total, \$124 million were products primary to other industries; and \$14 million were receipts for miscellaneous activities. The industry shipments of primary products represented 80 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 79 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$606 million of aluminum castings were shipped by all producers of these products. Of this total, \$498 million, or 82 percent, were shipped by plants classified in Industry 3361, Aluminum Castings while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 81.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE ALUMINUM CASTINGS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3361)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	951	319	35,970	221,667	30,541	63,186	173,495	341,000	298,046	635,934	18,293	30,045	225,686
New England.....	76	18	2,131	12,081	1,840	3,761	9,199	19,072	11,863	30,975	727	1,677	10,949
Connecticut.....	30	8	1,194	7,253	1,018	2,119	5,408	10,801	7,939	18,770	(1)	1,118	7,587
Middle Atlantic....	153	52	6,964	45,070	5,826	12,033	35,339	68,872	51,112	119,734	2,732	6,093	47,116
New York.....	57	25	3,284	21,535	2,700	5,658	16,848	33,363	29,341	62,465	1,477	2,223	17,215
New Jersey.....	38	11	1,349	9,199	1,141	2,384	7,151	12,339	8,707	21,201	633	1,269	9,389
Pennsylvania.....	58	16	2,331	14,336	1,985	3,991	11,340	23,120	13,064	36,068	622	2,601	20,512
East North Central	352	136	17,328	110,419	14,724	30,560	86,351	164,434	154,020	315,661	9,714	14,562	110,132
Ohio.....	122	40	7,301	47,902	6,131	12,712	37,347	77,549	59,531	135,593	2,620	5,986	45,950
Indiana.....	30	16	2,349	17,211	1,973	4,349	13,532	22,613	33,358	55,607	(D)	1,515	9,941
Illinois.....	89	34	3,201	18,736	2,715	5,526	14,420	26,022	22,451	48,017	1,384	2,407	17,863
Michigan.....	73	25	2,163	13,100	1,868	3,748	10,276	18,911	20,703	39,503	(D)	2,908	24,974
Wisconsin.....	38	21	2,314	13,470	2,037	4,225	10,776	19,339	17,977	36,941	1,037	1,746	11,404
West North Central	68	32	2,522	13,454	2,234	4,661	11,064	21,125	16,458	37,304	783	2,544	17,792
Minnesota.....	18	11	872	5,202	788	1,693	4,378	6,708	6,319	12,963	(1)	678	4,584
Iowa.....	15	4	250	1,287	209	459	999	2,529	1,548	4,047	(1)	327	2,011
Missouri.....	24	12	1,152	5,827	1,013	2,064	4,777	9,671	7,013	16,500	(1)	1,443	10,572
South Atlantic....	49	10	768	3,386	663	1,337	2,609	4,961	3,616	8,543	(D)	471	2,538
East South Central	21	5	1,387	10,017	1,154	2,505	7,940	15,754	22,282	38,143	(D)	643	3,208
West South Central	54	15	1,087	5,600	910	1,839	4,260	11,620	12,806	24,282	938	807	6,513
Arkansas.....	7	6	512	3,111	411	844	2,321	7,265	9,165	16,256	760	302	3,067
Texas.....	40	7	452	1,879	392	771	1,434	3,331	3,076	6,437	(1)	440	2,984
West.....	178	51	3,783	21,640	3,190	6,490	16,733	35,162	25,889	61,292	1,162	3,248	27,438
California.....	149	46	3,440	19,703	2,886	5,872	15,050	32,214	23,195	55,658	1,085	2,998	25,683

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.



Table 3A.--QUANTITY AND VALUE OF ALUMINUM CASTINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Aluminum Castings Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)
3361- --	Aluminum castings, total.....	(X)	605,938	(X)	399,605
33610 11	Aluminum and aluminum-base alloy (except cast aluminum cooking utensils): <sup>1</sup>				
33610 31	Sand.....	75,819	145,834	50,569	101,680
33610 31	Permanent and semipermanent mold.....	97,217	112,739	71,963	82,048
33610 41	Die.....	239,713	265,816	106,234	142,345
33610 51	Investment.....	669	9,583	197	2,698
33610 61	Other.....	(NA)	22,176	(NA)	15,069
	Cast aluminum finished products:				
33610 71	Pressure cookers, household (except electric).....	(X)	10,116	(X)	7,633
33610 75	Cast aluminum cooking utensils (except electric).....				
33610 00	Aluminum and aluminum-base alloy castings, not specified by kind.....	(X)	39,674	(X)	48,132

(NA) Not available. (X) Not applicable.

<sup>1</sup>These data differ from the quantities published in Current Industrial Reports Series M33E "Nonferrous Castings" in that no data are included for castings produced by captive foundry departments of plants classified in other industries. In addition, certain products are reported as castings in the monthly survey which in the census of manufactures are classified as finished products in other industries.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR ALUMINUM CASTINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958  
(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3361-	Aluminum castings:.....1963...	174	92
	.....1958...	103	102

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-33D-6



INDUSTRY SERIES

preliminary  
report

## Brass, bronze, copper castings

SIC Code 3362

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Brass, Bronze, Copper Castings Industry had total shipments valued at \$284 million, an increase of 29 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 2 percent from 1958 but a decrease of 15 percent from 1962 to a total of 15 thousand employees in 1963. Value added by manufacture amounted to \$142 million in 1963, an increase of 29 percent from 1958 but a decrease of 8 percent from 1962.

The Brass, Bronze, Copper Castings Industry includes establishments engaged primarily in the manufacture of castings (including die castings) of copper and copper-base alloy.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE BRASS, BRONZE, COPPER CASTINGS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3362)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	549	192	15,219	85,491	12,743	25,809	64,515	142,096	143,182	284,340	5,265	(X)
1962.....	(NA)	(NA)	17,829	97,613	14,633	28,777	71,024	155,233	150,157	304,380	5,298	3
1961.....	(NA)	(NA)	17,173	89,020	13,991	27,258	64,819	149,576	137,588	283,832	3,843	3
1960.....	(NA)	(NA)	16,809	85,690	13,641	26,551	62,258	137,386	133,383	274,488	4,908	2
1959.....	(NA)	(NA)	16,388	81,015	13,799	27,340	61,939	131,703	136,591	267,367	4,539	1
1958.....	665	209	14,861	70,512	12,294	23,538	52,786	109,744	111,609	220,955	5,103	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that the industry is not comparable with earlier years.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Brass, Bronze, Copper Castings Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Brass, Bronze, Copper Castings Industry amounted to \$284 million. Of this total, \$46 million were products primary to other industries; and \$9 million were receipts for miscellaneous activities. The industry shipments of primary products represented 83 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 85 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$296 million of Brass, Bronze, Copper Castings were shipped by all producers of these products. Of this total, \$229 million, or 77 percent, were shipped by plants classified in Industry 3362, Brass, Bronze, Copper Castings while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 81.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE BRASS, BRONZE, COPPER CASTINGS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958  
(SIC code 3362)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	549	192	15,219	85,491	12,743	25,809	64,515	142,096	143,182	284,340	5,265	14,861	109,744
New England.....	59	23	1,468	7,368	1,263	2,482	5,712	11,991	11,299	23,222	(1)	1,496	10,377
Massachusetts....	27	11	791	3,964	681	1,307	3,152	6,794	7,044	13,821	(1)	766	4,919
Connecticut.....	21	8	430	2,254	362	740	1,685	3,386	2,733	6,064	(1)	373	2,660
Middle Atlantic...	150	49	5,162	29,079	4,335	8,885	21,810	46,707	39,997	86,238	1,190	4,480	32,167
New York.....	55	18	1,247	6,920	1,071	2,108	5,542	11,720	11,222	22,822	(1)	1,571	10,865
New Jersey.....	32	10	758	4,428	603	1,204	3,089	7,050	5,895	12,594	(1)	638	4,852
Pennsylvania.....	65	21	3,157	17,731	2,661	5,573	13,179	27,937	22,880	50,822	895	2,271	16,450
East North Central	191	72	5,342	32,730	4,412	8,896	24,351	52,671	55,080	107,466	2,221	5,712	44,471
Ohio.....	57	25	1,624	9,440	1,321	2,747	7,073	15,291	15,695	31,400	749	1,977	13,948
Illinois.....	54	21	1,302	7,709	1,107	2,247	5,998	11,503	12,027	23,422	524	1,442	10,515
Michigan.....	35	11	934	6,529	778	1,498	4,868	11,514	11,964	23,073	(1)	982	10,860
West North Central	29	12	714	3,611	598	1,215	2,838	8,415	10,285	18,669	(1)	848	6,803
South.....	44	15	1,289	5,756	1,079	2,224	4,336	10,609	12,288	22,986	716	769	4,803
Texas.....	11	5	253	1,314	213	488	978	2,140	3,236	5,388	(1)	183	1,263
West.....	76	21	1,244	6,947	1,056	2,107	5,468	11,703	14,233	25,759	(1)	1,556	11,123
California.....	55	17	978	5,583	821	1,648	4,329	9,743	11,458	20,997	(1)	1,212	9,505

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF BRASS, BRONZE, COPPER CASTINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Brass, Bronze, Copper Castings Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)
3362- --	Brass, bronze, copper castings, total.....	(X)	296,320	(X)	222,755
	Copper and copper-base alloy (except bearings and bushings): <sup>1</sup>				
33620 11	Sand.....	139,050	191,644	116,359	148,270
33620 31	Permanent and semipermanent mold.....	6,230	13,912	3,584	7,301
33620 41	Die.....	3,487	7,383	1,117	2,533
33620 51	Investment.....	(NA)	3,460	234	3,754
33620 61	Other.....	11,155	18,930	4,999	10,928
33620 71	Copper-base alloy bearings and bushings, nonmachined.....	(X)	39,052	(X)	21,205
33620 00	Copper and copper-base alloy castings, not specified by kind.	(X)	21,939	(X)	28,764

(NA) Not available. (X) Not applicable.

<sup>1</sup>These data differ from the quantities published in Current Industrial Reports Series MB3E "Nonferrous Castings" in that no data are included for castings produced by captive foundry departments of plants classified in other industries. In addition, certain products are reported as castings in the monthly survey which in the Census of Manufactures are classified as finished products in other industries.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

OFFICIAL BUSINESS

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U.S. DEPARTMENT OF COMMERCE

# 1963 CENSUS OF MANUFACTURES

MC63(P)-33D-7



INDUSTRY SERIES

preliminary  
report

## Nonferrous castings, n. e. c.

SIC Code 3369

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Nonferrous Castings, N.E.C., Industry shipped products valued at \$301 million, an increase of 28 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 2 percent from 1958 and 12 percent from 1962 to a total of 18 thousand employees in 1963. Value added by manufacture amounted to \$168 million in 1963, an increase of 24 percent from 1958 and 12 percent from 1962.

The Nonferrous Castings, N.E.C., Industry includes establishments engaged primarily in the manufacture of casting of nonferrous materials except aluminum, copper, and copper base alloys.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE NONFERROUS CASTINGS, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3369)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	389	163	17,601	102,547	14,777	30,180	78,092	167,849	133,772	301,479	6,735	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	15,779	90,380	13,218	27,145	69,432	149,768	110,485	259,438	5,780	5
1961 <sup>2</sup> .....	(NA)	(NA)	14,574	81,744	11,953	24,226	60,862	127,825	94,058	222,190	(4,106)	4
1960 <sup>2</sup> .....	(NA)	(NA)	17,079	92,640	14,221	28,718	69,036	150,157	108,993	260,157	7,830	3
1959 <sup>2</sup> .....	(NA)	(NA)	18,309	98,083	15,477	31,343	74,685	151,623	116,862	267,699	6,655	2
1958 <sup>2</sup> .....	345	136	17,253	89,239	14,330	27,617	66,339	135,311	98,678	234,649	5,013	(X)

(NA) Not available. (X) Not applicable. <sup>2</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic

importance of manufacturing industries or geographic areas.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Nonferrous Castings, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Nonferrous Castings, N.E.C., Industry amounted to \$301 million. Of this total, \$70 million were products primary to other industries; and \$7 million were receipts for miscellaneous activities. The industry shipments of primary products represented 76 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 78 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$306 million of nonferrous castings, n.e.c., were shipped by all producers of these products. Of this total, \$225 million, or 73 percent, were shipped by plants classified in Industry 3369, nonferrous castings, n.e.c., while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 77 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965.



through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE NONFERROUS CASTINGS, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3369)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	389	163	17,601	102,547	14,777	30,180	78,092	167,849	133,772	301,479	6,735	17,253	135,311
Northeast.....	132	46	4,339	23,935	3,630	7,464	18,049	37,615	21,868	59,855	1,190	4,775	32,733
New York.....	53	19	1,648	8,759	1,366	2,852	6,311	14,835	8,674	23,708	(1)	1,613	10,695
East North Central	143	74	9,369	56,983	7,928	16,145	43,518	91,987	85,583	176,723	3,808	9,563	78,280
Ohio.....	28	13	1,689	9,230	1,386	2,836	6,806	15,907	14,848	30,549	(1)	2,066	16,176
Illinois.....	48	22	2,781	17,643	2,414	5,086	14,055	27,699	25,549	52,819	1,310	3,168	23,720
Michigan.....	56	31	3,965	24,275	3,344	6,674	18,358	38,326	39,426	77,439	1,647	3,639	33,217
West North Central	21	9	938	5,146	790	1,565	3,942	8,024	7,577	15,590	(1)	754	6,702
Missouri.....	10	4	390	2,230	323	626	1,776	3,204	3,615	6,810	(1)	597	5,374
South.....	34	9	650	2,961	554	1,074	2,294	4,774	3,361	8,148	(1)	317	1,595
West.....	59	25	2,305	13,522	1,875	3,932	10,289	25,449	15,383	41,163	985	1,844	16,001
California.....	51	24	2,203	12,986	1,784	3,753	9,814	24,260	14,871	39,477	878	1,731	15,019

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.--QUANTITY AND VALUE OF NONFERROUS CASTINGS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Nonferrous Castings, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)
3369- --	Nonferrous castings, n.e.c., total <sup>1</sup> .....	(NA)	305,984	(NA)	233,236
33690 --	Nonferrous castings, n.e.c., total:				
	Magnesium and magnesium-base alloy:				
33690 11	Sand.....	5,004	31,255	7,782	44,353
33690 31	Die.....	(NA)	7,704	(NA)	4,532
33690 33	Cast anodes.....	}	4,942	(NA)	4,577
33690 41	Other, including permanent and semipermanent.....				
	Zinc and zinc base alloy:				
33690 51	Die.....	186,302	201,806	119,783	132,897
33690 61	Other.....	(NA)	4,518	(NA)	702
33690 71	Lead and lead-base alloy die.....	(NA)	6,736	(NA)	3,737
33690 98	Other nonferrous metal castings, including die castings.....	(NA)	35,511	(NA)	32,661
33690 00	Nonferrous castings, n.e.c., not specified by kind.....	(X)	13,512	(X)	9,777

n.e.c. Not elsewhere classified. (NA) Not available. (X) Not applicable.

<sup>1</sup>These data differ from the tonnage data published in the Current Industrial Reports Series M33E, Nonferrous Castings, in that no data are included for castings produced by captive foundry departments of plants classified in other industries. In addition, certain products are reported as castings in the monthly survey which in the census of manufactures are classified as finished products in other industries.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-33E-1



INDUSTRY SERIES

preliminary  
report

## Iron and steel forgings

SIC Code 3391

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Iron and Steel Forgings Industry shipped products valued at \$834 million, an increase of 27 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 7 percent from 1958 to a total of 35 thousand employees in 1963. Value added by manufacture amounted to \$368 million in 1963, an increase of 17 percent from 1958.

The Iron and Steel Forgings Industry includes establishments engaged primarily in the manufacture

of light and heavy board drop, steam hammer, upset, and press iron and steel forgings with or without the use of dies. Rolling mills engaged in the production of iron and steel forgings are classified in Industry 3312, Blast Furnaces and Steel Mills.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE IRON AND STEEL FORGINGS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3391)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	268	183	34,963	250,777	28,237	56,242	191,098	368,374	456,586	833,539	16,960
1958 <sup>2</sup> .....	302	190	37,739	220,542	30,154	56,699	164,054	315,928	359,672	687,270	14,268
1954 <sup>3</sup> .....	259	182	39,771	201,938	33,012	65,120	155,311	294,112	297,612	603,228	15,862
1947 <sup>3</sup> .....	250	179	36,724	128,198	32,384	66,469	105,776	197,111	172,986	370,097	9,230
1939 <sup>3</sup> .....	192	(NA)	(NA)	(NA)	14,764	(NA)	21,462	49,426	48,576	98,002	(NA)

(NA) Not available. <sup>2</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available for 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Iron and Steel Forgings Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Iron and Steel Forgings Industry amounted to \$834 million. Of this total, \$70 million were products primary to other industries; and \$33 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 86 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,046 million of iron and steel forgings were shipped by all producers of these products. Of this total, \$731 million, or 70 percent, were shipped by plants classified in Industry 3391, Iron and Steel Forgings while the remainder was shipped by plants classified in other industries. The comparable ratio in 1958 was 72 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

## 1963 CENSUS OF MANUFACTURES

Table 2.--GENERAL STATISTICS FOR THE IRON AND STEEL FORGINGS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3391)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	268	183	34,963	250,777	28,237	56,242	191,098	368,374	456,586	833,539	16,960	37,739	315,928
New England.....	18	14	3,208	21,556	2,351	4,788	14,932	26,175	27,648	54,130	1,080	3,737	28,955
Massachusetts....	10	9	2,702	18,434	1,955	3,972	12,691	20,640	21,784	42,840	803	2,668	21,298
Middle Atlantic...	57	40	4,361	27,211	3,546	6,950	20,374	41,551	44,025	89,653	1,303	8,100	56,554
New York.....	15	11	816	4,731	655	1,342	3,590	9,015	7,139	15,890	(1)	3,549	18,912
New Jersey.....	13	8	647	3,944	526	896	2,910	6,921	5,280	12,762	(1)	519	4,646
Pennsylvania....	29	21	2,898	18,536	2,365	4,712	13,874	25,615	31,606	61,001	931	4,032	32,996
North Central.....	136	91	25,022	185,805	20,571	40,771	144,838	271,701	346,381	621,824	13,067	23,635	209,594
Ohio.....	42	30	5,985	44,462	4,996	10,112	35,111	63,114	87,078	151,879	3,349	5,347	43,958
Indiana.....	9	6	3,320	23,221	2,836	5,720	18,995	38,050	47,086	82,491	(D)	2,863	24,313
Illinois.....	37	24	4,751	36,358	3,868	7,436	27,184	55,223	76,421	134,326	2,114	4,647	44,852
Michigan.....	32	25	5,031	39,238	4,297	8,845	31,150	54,108	81,140	136,125	2,218	4,352	40,913
Wisconsin.....	7	6	5,883	42,246	4,533	8,575	32,178	60,745	54,213	116,096	(D)	6,398	55,311
South.....	29	19	1,179	6,951	889	1,919	4,603	11,256	15,944	27,345	(1)	763	7,186
West.....	28	19	1,193	9,254	880	1,814	6,351	17,691	22,588	40,587	1,172	1,504	13,639
California.....	25	17	1,114	8,835	820	1,695	6,030	16,900	21,852	39,043	1,157	1,310	11,975

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3.--QUANTITY AND VALUE OF IRON AND STEEL FORGINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Iron and Steel Forgings Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	(Total shipments including interplant transfers)			
		1963		1958	
		Quantity (short tons)	Value (\$1,000)	Quantity (short tons)	Value (\$1,000)
3391- --	Iron and steel forgings, total.....	(NA)	1,046,280	(NA)	1,768,917
33911 --	Closed die (drop, upset and press) forgings <sup>2</sup> .....	(X)	729,233	(NA)	535,319
33911 11	Carbon steel.....	910,384	366,583	705,486	273,609
33911 31	Alloy steel (except stainless).....	533,141	311,810	364,424	206,756
33911 51	Stainless steel.....	8,532	35,731	9,622	38,548
33911 00	Drop upset and press steel forgings not specified by grade.....	(X)	15,109	(X)	16,406
33919 --	Open die hammer and press forgings: <sup>2 3</sup>				
33129 --	Made in steel works (Industry 3312).....	(NA)	107,163	129,289	119,487
33129 --	Made in steel forgings (Industry 3391) and other industries.....	(NA)	190,855	(NA)	101,377
33919 --	Total for all industries.....	(NA)	298,018	(NA)	220,864
33919 21	Open die hammer forgings:				
33919 22	Carbon steel.....	101,198	57,338	<sup>4</sup> 126,836	<sup>4</sup> 59,174
33919 23	Alloy steel (except stainless).....	65,947	61,504	<sup>5</sup> 137,373	<sup>5</sup> 138,472
33919 23	Stainless steel.....	4,137	10,273	<sup>6</sup> 7,749	<sup>6</sup> 18,310
33919 41	Open die press forgings:				
33919 42	Carbon steel.....	174,484	61,398	( <sup>4</sup> )	( <sup>4</sup> )
33919 43	Alloy steel (except stainless).....	130,620	96,182	( <sup>5</sup> )	( <sup>5</sup> )
33919 43	Stainless steel.....	2,357	5,136	( <sup>6</sup> )	( <sup>6</sup> )
33919 00	Open die hammer and press forgings not specified by grade.....	(X)	6,187	(NA)	4,908
33910 00	Iron and steel forgings not specified by kind.....	(X)	19,029	(NA)	12,734

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes product class 33129 open die hammer and press forgings made in blast furnaces and steel mills.

<sup>2</sup>These figures are not strictly comparable with tonnage figures shown in Current Industrial Reports Series M33C, "Commercial Steel Forgings," in that the latter include only forgings "for sale," whereas the 1963 and 1958 Census of Manufacturer also include interplant transfers of forgings. Accordingly, a direct comparison with the monthly Current Industrial Reports series is not possible. Forgings produced and consumed are not included in either the Census or the Current Industrial Reports figures. The annual totals in the monthly Current Industrial Reports survey for commercial steel forgings were as follows:

Item	1963 (short tons)	1958 (short tons)
Closed die (drop, upset and press) forgings:		
Carbon.....	785,267	528,716
Alloy, including stainless.....	391,346	295,141
Open die hammer and press forgings:		
Carbon.....	156,074	92,096
Alloy, including stainless.....	219,936	163,480

<sup>3</sup>Figures for 1963 have been revised from data previously published in the preliminary report for Industry 3312 "Blast Furnaces and Steel Mills."

<sup>4</sup>In 1958, product codes 3391921 and 3391941 were combined.

<sup>5</sup>In 1958, product codes 3391922 and 3391942 were combined.

<sup>6</sup>In 1958, product codes 3391923 and 3391943 were combined.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-33E-2

INDUSTRY SERIES

preliminary  
report

## Nonferrous forgings

SIC Code 3392

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Nonferrous Forgings Industry had total shipments valued at \$124 million, an increase of 25 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 5 percent from 1958 to a total of 4.4 thousand employees in 1963. Value added by manufacture amounted to \$53 million in 1963, an increase of 43 percent from 1958.

The Nonferrous Forgings Industry includes establishments engaged primarily in manufacturing, with or without the use of dies, forgings of aluminum, copper, titanium, and other nonferrous metals and alloys.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE NONFERROUS FORGINGS INDUSTRY FOR SELECTED YEARS  
(SIC code 3392)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963.....	33	18	4,436	33,256	3,390	7,000	23,366	52,547	72,098	123,982	2,952
1958 <sup>2</sup> .....	28	19	4,649	27,806	3,476	6,761	19,383	36,760	53,080	98,694	2,033
1954 <sup>2</sup> .....	31	(NA)	5,418	25,324	4,242	8,682	18,982	(NA)	(NA)	(NA)	(NA)

(NA) Not available. <sup>1</sup>Revised.

<sup>2</sup>Includes expenditures for plants under construction but not in operation.

<sup>3</sup>Data for Alaska and Hawaii are not included.

January 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees is as follows: Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. Figures for production workers are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Nonferrous Forgings Industry consists not only of products described above as primary to the industry, but also to the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Nonferrous Forgings Industry amounted to \$124 million. Of this total, \$14 million were products primary to other industries; and \$11 million were receipts for miscel-

laneous activities. The industry shipments of primary products represented 88 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 85 percent (revised).

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$197 million of nonferrous forgings were shipped by all producers of these products. Of this total, \$98 million, or 50 percent, were shipped by plants classified in Industry 3392, Nonferrous Forgings, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 60 (revised).

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of

mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years

ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE NONFERROUS FORGINGS INDUSTRY BY REGIONS AND STATES: 1963 AND 1958

(Not applicable to this industry)

Table 3.--QUANTITY AND VALUE OF NONFERROUS FORGINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Nonferrous Forgings Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Short tons)	Value (\$1,000)	Quantity (Short tons)	Value (\$1,000)
3392	Nonferrous forgings, total.....	(X)	196,529	(X)	<sup>1</sup> 131,995
33920 11	Copper and copper-base alloy.....	29,481	44,856	10,002	14,374
	Aluminum and aluminum-base alloy:				
33920 33	Closed-die.....	34,942	89,783	22,055	68,188
33920 35	Open-die.....	5,517	9,660	3,305	5,993
33920 51	Magnesium and magnesium-base alloy.....	311	2,308	(X)	( <sup>1</sup> )
33920 61	Titanium and titanium-base alloy.....	2,209	33,044	884	33,379
33920 98	Other nonferrous metal forgings.....	(X)	15,811	(X)	<sup>1</sup> 26,034
33920 00	Nonferrous forgings, not specified by kind.....	(X)	1,067	(X)	4,076

<sup>1</sup>Revised. (X) Not applicable.

<sup>2</sup>In 1958, magnesium and magnesium-base alloy forgings were included with "Other nonferrous forgings," (33920 98).



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# 1963 CENSUS OF MANUFACTURES

MC63(P)-33E-3



INDUSTRY SERIES

preliminary  
report

## Primary metal industries, n.e.c.

SIC Code 3399

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Primary Metal Industries, N.E.C., Industry had total shipments valued at \$260 million, an increase of 84 percent over 1958 according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 45 percent from 1958 to a total of 14 thousand employees in 1963. Value added by manufacture amounted to \$174 million in 1963, an increase of 92 percent from 1958.

The Primary Metals Industries, N.E.C., Industry includes establishments engaged primarily in the manufacture of primary metal products, not elsewhere classified, such as nonferrous nails, brads, and spikes; metal powder, flakes and paste; and establishments primarily engaged in heat treating of metal for the trade.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent

Table 1.—GENERAL STATISTICS FOR THE PRIMARY METAL INDUSTRIES, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3399)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	730	204	14,197	89,402	10,905	23,412	61,214	173,870	86,677	260,151	12,471
1958.....	581	149	9,795	52,717	7,359	14,813	35,088	90,656	50,095	141,172	5,615
1954 <sup>3</sup> .....	468	(NA)	8,957	39,406	6,946	14,594	26,569	(NA)	(NA)	(NA)	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Primary Metal Industries, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Primary Metal Industries, N.E.C., Industry amounted to \$260 million. Of this total, \$4 million were products primary to other industries; and \$7 million were receipts for miscellaneous activities. The industry shipments of primary products represented 98 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 98 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$277 million of primary metal industries products, n.e.c., were shipped by all producers of these products. Of this total, \$249 million, or 90 percent were shipped by plants classified in Industry 3399, Primary Metal Industries, N.E.C., while the remainder was shipped plants classified in other industries. The 1958 ratio was 87 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary



reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

## 1963 CENSUS OF MANUFACTURES

Table 2.—GENERAL STATISTICS FOR THE PRIMARY METAL INDUSTRIES, N.E.C., INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3399)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll  (\$1,000)	Number	Man-hours  (1,000)	Wages  (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	730	204	14,197	89,402	10,905	23,412	61,214	173,870	86,677	260,151	12,471	9,795	90,656
New England.....	73	13	1,035	6,112	754	1,597	3,883	12,212	5,440	17,667	900	537	5,031
Middle Atlantic...	147	36	2,739	16,965	1,996	4,195	10,802	36,051	21,611	57,604	2,181	2,286	22,443
New Jersey.....	48	14	1,163	7,385	778	1,643	4,183	16,692	14,501	30,897	929	998	10,999
All other divisions.....	510	155	10,423	66,325	8,155	17,620	46,529	125,607	59,626	184,880	9,390	6,972	63,182
Indiana.....	32	9	748	4,783	585	1,222	3,223	9,446	9,446	18,964	1,841	256	2,564
Wisconsin.....	18	8	453	2,842	359	759	1,943	5,535	1,334	6,881	(1)	283	2,367
Minnesota.....	11	5	245	1,490	190	379	1,006	2,399	784	3,188	(1)	127	1,551

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF PRIMARY METAL INDUSTRIES, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Primary Metal Industries, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Short tons)	Value (\$1,000)	Quantity (Short tons)	Value (\$1,000)
3399 —	Primary metal industries, n.e.c., total.....	(X)	277,433	(X)	150,498
33991 --	Metal powders and paste.....	(X)	98,902	(X)	55,108
33991 11	Aluminum and aluminum-base alloy <sup>1</sup> .....	<sup>2</sup> 22,543	20,176	<sup>2</sup> 13,867	15,409
33991 33	Copper and copper-base alloy <sup>3</sup> .....	<sup>4</sup> 25,548	26,408	<sup>4</sup> 16,017	16,704
33991 55	Iron and steel.....	<sup>5</sup> 65,248	15,773	(X)	21,512
33991 98	Other nonferrous powders.....	(X)	34,699	(X)	1,483
33991 00	Metal powders and paste, not specified by type.....	(X)	1,846	(X)	1,483
33992 --	Primary metal products, n.e.c.....	(X)	8,861	1,953	2,051
33992 11	Nonferrous nails, brads, tacks, and staples.....	<sup>5</sup> 5,524	4,289	1,953	2,051
33992 98	Other primary metal products, n.e.c.....	(X)	4,572	(X)	-
33996 11	Heat treating of metal for the trade (heat treating, pickling, annealing, etc.) <sup>6</sup> .....	(X)	158,008	(X)	85,258
33990 00	Primary metal products, not specified by kind.....	(X)	11,662	(X)	8,081

- Represents zero. n.e.c. Not elsewhere classified. (X) Not applicable.

<sup>1</sup>Monthly figures are also shown in Current Industrial Reports Series M33-2 "Aluminum Ingot and Mill Products."<sup>2</sup>Represents aluminum content.<sup>3</sup>Quarterly figures are also shown in Current Industrial Reports Series BDEAF-84, "Shipments of Copper - Base Mill and Foundry Products."<sup>4</sup>Represents copper content.<sup>5</sup>Represents iron content.<sup>6</sup>Consists almost exclusively of receipts for work done on materials owned by others. Includes only work done by establishments classified in Industry 3399.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34A-1



## INDUSTRY SERIES

preliminary  
report

### Metal cans

SIC Code 3411

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Metal Cans Industry had total shipments valued at \$2,098 million, an increase of 15 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 2 percent from 1958 but an increase of 1 percent from 1962 to a total of 53 thousand employees in 1963. Value added by manufacture amounted to \$815 million in 1963, an increase of 22 percent from 1958 and 6 percent from 1962.

The Metal Cans Industry includes establishments engaged primarily in the manufacture of metal cans from purchased tinplate, terneplate, blackplate, enameled sheet metal, aluminum sheet or impact extrusions (slugs).

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment

Table 1.—GENERAL STATISTICS FOR THE METAL CANS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	270	206	53,422	378,200	46,147	97,731	312,060	815,387	1,303,014	2,097,535	65,734	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	53,069	369,321	46,018	98,442	305,401	772,377	1,339,631	2,112,439	59,974	3
1961 <sup>2</sup> .....	(NA)	(NA)	53,355	347,613	46,206	96,001	286,885	758,725	1,343,545	2,095,282	47,853	2
1960 <sup>2</sup> .....	(NA)	(NA)	53,554	333,624	46,369	95,789	275,092	666,151	1,279,234	1,936,373	68,425	2
1959 <sup>2</sup> .....	(NA)	(NA)	53,764	332,097	46,613	97,349	273,998	668,260	1,250,791	1,933,746	50,772	1
1958 <sup>2</sup> .....	222	189	54,238	303,885	46,921	94,295	249,514	668,606	1,169,699	1,824,106	54,346	(X)
1954 <sup>4</sup> .....	227	175	55,234	245,134	48,008	97,574	202,112	500,408	897,795	1,381,359	50,093	(X)
1947 <sup>4</sup> .....	215	172	46,760	126,941	40,779	84,715	105,394	231,503	447,421	678,924	20,183	(X)
1939 <sup>4</sup> .....	195	(NA)	(NA)	(NA)	29,277	(NA)	33,722	116,152	242,669	358,821	(NA)	(X)

(NA) Not available. (X) Not applicable. <sup>2</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Excludes data for Alaska and Hawaii. Number of "All employees" in these two States was between 250 and 499.

<sup>4</sup>Data for Alaska and Hawaii are not included.

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in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Metal Cans Industry consists not only of products described above as primary to the industry, but also of the value of secondary

products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Metal Cans Industry amounted to \$2,098 million. Of this total, \$61 million were products primary to other industries; and \$53 million were receipts for miscellaneous activities. The industry shipments of primary products represented 97 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 98 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$2,028 million of metal cans were shipped by all producers of these products. Of this total, \$1,984 million, or 98 percent, were shipped by plants classified in Industry 3411, Metal Cans, while the remainder was shipped by plants classified in other industries. The comparable ratio in 1958 was 99.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity and value figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports



will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE METAL CANS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958  
(SIC code 3411)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	270	206	53,422	378,200	46,147	97,731	312,060	815,387	1,303,014	2,097,535	65,734	54,238	668,606
New England.....	7	6	765	5,176	644	1,360	3,932	13,013	21,619	34,370	591	748	9,390
Middle Atlantic...	62	46	13,217	90,172	11,550	24,771	75,081	190,021	264,893	452,846	14,685	13,835	150,718
New York.....	28	15	3,286	21,917	2,800	5,891	17,537	44,358	65,557	109,269	2,528	3,830	36,656
New Jersey ....	19	16	5,562	39,092	4,836	10,322	32,324	90,526	114,353	203,822	6,006	5,637	72,370
Pennsylvania....	15	15	4,369	29,163	3,914	8,558	25,220	55,137	84,983	139,755	6,151	4,368	41,692
North Central....	68	58	19,283	136,437	16,605	34,673	112,091	292,359	428,074	717,111	20,246	19,912	264,268
Illinois.....	21	21	10,051	70,997	8,655	18,021	58,328	138,191	177,131	313,593	10,336	11,233	128,821
Wisconsin.....	9	7	2,006	14,425	1,768	3,628	12,150	27,919	62,453	90,002	2,217	2,025	33,466
Minnesota.....	5	3	1,173	8,800	1,036	22,210	7,446	25,918	33,453	58,540	881	842	18,858
South Atlantic....	33	26	6,228	46,118	5,245	11,859	37,961	67,005	160,690	223,974	7,891	6,198	63,937
Maryland.....	10	9	3,694	26,962	3,186	6,966	22,317	29,428	85,518	112,810	1,747	4,269	38,833
Florida.....	11	8	1,580	12,948	1,312	3,028	10,528	22,457	47,777	68,732	3,445	1,591	20,820
East South Central	8	5	378	2,029	344	720	1,764	8,377	17,579	25,958	712	221	2,551
West South Central	18	11	3,386	25,344	2,906	6,127	20,560	50,296	81,820	131,367	7,294	3,429	43,959
Texas.....	12	7	1,978	15,000	1,678	3,534	11,934	33,208	52,057	84,464	5,937	2,117	26,448
Mountain.....	9	5	415	2,854	347	760	2,220	11,508	19,700	31,079	544	294	4,948
Pacific.....	65	49	9,750	70,070	8,500	17,461	58,451	182,808	308,639	480,830	13,771	9,601	128,835
California.....	45	34	8,123	59,151	7,116	14,690	49,790	148,798	234,096	377,015	11,973	8,129	109,986

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF METAL CANS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Metal Cans Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 base boxes of metal) <sup>1</sup>	Value (\$1,000)	Quantity (1,000 base boxes of metal) <sup>1</sup>	Value (\$1,000)
3411- --	Metal cans, total.....	(X)	2,028,470	(X)	1,762,346
	Metal cans <sup>2</sup> :				
	Steel (tinplate):				
34110 01	As reported in the census of manufactures <sup>3</sup> .....	110,561	1,953,620	103,579	1,754,984
	As reported on Monthly Form M34D <sup>3</sup> .....	<sup>4</sup> 107,685	(NA)	<sup>4</sup> 103,849	(NA)
	Aluminum:				
34110 02	Reported in census of manufacture <sup>3</sup> .....	2,410	58,561	(NA)	(NA)
	Reported on Monthly Form M34D <sup>3</sup> .....	<sup>5</sup> 2,356	(NA)	(NA)	(NA)
	Detail data by type of can from Monthly Survey M34D:				
34110 24	Fruit and fruit juices (including cans for fruit base, still drinks sold as soft drinks).....	15,474	(NA)	33,379	(NA)
34110 25	Vegetable and vegetable juice.....	17,515	(NA)		(NA)
34110 26	Evaporated and condensed milk.....	4,161	(NA)	5,175	(NA)
34110 28	Other dairy products.....	606	(NA)	728	(NA)
34110 32	Meat, including poultry.....	3,654	(NA)	2,950	(NA)
34110 34	Fish and seafood.....	2,875	(NA)	2,843	(NA)
34110 36	Coffee.....	4,748	(NA)	4,452	(NA)
34110 38	Lard and shortening.....	2,071	(NA)	2,383	(NA)
34110 42	Soft drinks.....	4,116	(NA)	810	(NA)
34110 44	Beer.....	19,580	(NA)	16,902	(NA)
34110 46	Baby food, including formulas.....	701	(NA)	11,363	(NA)
34110 48	All other foods (including soups).....	12,225	(NA)		(NA)
34110 52	Pet foods.....	4,625	(NA)	4,155	(NA)
34110 56	Oil (open top up through 5-quart).....	3,995	(NA)	6,337	(NA)
34110 54	Paint and varnish products (including painter's supplies).....	3,689	(NA)	12,372	(NA)
34110 64	Anti-freeze.....	1,057	(NA)		(NA)
34110 66	Pressure packing (valvetype).....	2,501	(NA)		(NA)
34110 68	All other nonfoods.....	6,448	(NA)		(NA)
34110 91	Tinware end products (including ice cream cans but excluding cooking and kitchen utensils).....	(X)	9,045	(X)	3,914
34110 00	Metal cans, not specified by kind.....	(X)	7,244	(X)	3,448

(NA) Not available. (X) Not applicable.

<sup>1</sup>A base box is an area of 31,360 square inches, equivalent to 112 sheets, 14" x 20" in size.<sup>2</sup>A metal can is defined as a single-walled container constructed wholly of tinplate, terneplate, blackplate, waste plate, aluminum sheet or impact extrusions (slugs) designed for packing products. This definition excludes steel pails, defined as single-walled shipping containers having capacities of 1-12 gallons inclusive that are cylindrically constructed of steel sheet of 29 gauge and heavier.<sup>3</sup>The figures are not strictly comparable due to inconsistencies in reporting on the two surveys.<sup>4</sup>The 1963 and 1958 figures represent, respectively, 4,582 and 4,762 thousand short tons of steel. The 1963 estimate is derived by use of the factor 23.5 base boxes per short ton of steel. The 1958 figure is derived by use of separate conversion factors for each type of can. These factors vary from 20.4 to 25.0 base boxes per short ton of steel depending on the type of can.<sup>5</sup>Represents 43,321 short tons of aluminum.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR METAL CANS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3411-	Metal cans.....1963...	124	123
	.....1958...	113	117

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34A-2



INDUSTRY SERIES

preliminary  
report

Cutlery

SIC Code 3421

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Cutlery Industry shipped products valued at \$254 million, an increase of 42 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed no significant change from 1958 but decreased 10 percent from 1962 to a total of 12 thousand employees in 1963. Value added by manufacture amounted to \$185 million in 1963, an increase of 46 percent from 1958 and 5 percent from 1962.

The Cutlery Industry includes establishments engaged in the manufacture of cutlery.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

## ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing

Table 1.—GENERAL STATISTICS FOR THE CUTLERY INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3421)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number <sup>2</sup>	Payroll (\$1,000)	Number <sup>2</sup>	Man-hours (1,000)	Wages (\$1,000)					
1963.....	161	67	11,837	64,281	9,486	19,312	43,883	184,837	72,934	254,216	12,376	(X)
1962.....	(NA)	(NA)	12,418	65,832	9,472	19,095	40,634	176,670	63,273	239,365	11,423	6
1961 <sup>2</sup> .....	(NA)	(NA)	11,675	60,289	8,608	17,393	37,223	160,166	37,849	217,725	6,487	5
1960 <sup>2</sup> .....	(NA)	(NA)	11,298	55,834	8,585	17,202	35,215	144,029	54,726	195,867	3,387	5
1959 <sup>2</sup> .....	(NA)	(NA)	12,093	56,243	8,880	17,552	35,254	139,668	51,799	190,756	3,270	1
1958.....	183	72	11,831	52,745	9,107	17,986	34,875	126,310	51,146	179,271	2,370	(X)
1954 <sup>3</sup> .....	182	79	15,102	56,062	12,362	24,578	39,609	120,951	50,642	173,565	2,393	(X)
1947 <sup>3</sup> .....	195	97	20,248	54,142	17,579	37,219	42,350	104,833	37,738	142,571	5,774	(X)
1939 <sup>3</sup> .....	124	(NA)	(NA)	(NA)	10,252	(NA)	10,768	28,381	14,400	42,781	(NA)	(X)

(X) Not applicable.

(NA) Not available.

<sup>1</sup>Include expenditures for plants under construction and not yet in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

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establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Cutlery Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Cutlery Industry amounted to \$254 million. Of this total, \$30 million were products primary to other industries; and \$7 million were receipts for miscellaneous activities. The industry shipments of primary products represented 88 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 93 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$225 million of cutlery were shipped by all producers of these products. Of this total, \$217 million, or 96 percent, were shipped by plants classified in Industry 3421, Cutlery, while the remainder was shipped by plants classified in other industries. The comparable percentage for 1958 was 98 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

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The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

## 1963 CENSUS OF MANUFACTURES

Table 2.—GENERAL STATISTICS FOR THE CUTLERY INDUSTRY BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3421)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	161	67	11,837	64,281	9,486	19,312	43,883	184,837	72,934	254,216	12,376	11,831	126,310
New England.....	30	20	5,089	29,176	4,020	8,192	19,804	119,352	35,838	154,554	10,168	4,884	73,213
Connecticut.....	12	8	1,871	10,271	1,487	3,166	7,156	12,472	8,848	21,072	2,716	1,645	11,346
Middle Atlantic....	61	32	4,041	20,818	3,340	6,743	15,033	34,053	19,015	52,432	(D)	4,842	33,652
New York.....	28	18	2,137	10,838	1,752	3,343	7,809	16,716	11,608	27,859	(D)	2,724	17,860
New Jersey.....	25	8	1,270	6,992	1,027	2,308	4,917	13,150	5,169	18,198	(D)	1,547	12,298
Pennsylvania....	8	6	634	2,988	561	1,092	2,307	4,187	2,238	6,375	(D)	571	3,494
North Central.....	46	10	1,298	5,909	1,088	2,093	4,357	14,222	9,438	21,948	717	729	5,685
Ohio.....	16	5	879	3,985	730	1,384	2,889	10,326	6,898	15,417	631	394	3,168
South and West....	24	4	1,409	8,378	1,038	2,284	4,689	17,210	8,643	25,281	(D)	1,376	13,760

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF CUTLERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Cutlery Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3421- --	Cutlery, total.....	225,128	162,177
34211 --	Cutlery, scissors, shears, trimmers, and snips.....	90,494	77,326
34211 11	Table cutlery (consists of knives, forks, spoons, etc. for the serving and eating of food, with handles of materials other than metal). Carving sets with handles of materials other than metal are to be included with "table cutlery" rather than "kitchen cutlery".....	6,014	5,353
34211 21	Kitchen cutlery.....	15,918	16,579
34211 31	Butchers and meatpacking cutlery.....	4,754	2,919
34211 41	Pocket knives, and other folding blade knives.....	<sup>1</sup> 14,216	<sup>2</sup> 12,436
34211 53	Scissors and shears, including household types, barber shears, pinking and tailoring shears, etc. but excluding manicure, pedicure, surgical and the types reported below for "All other scissors and shears".....	13,826	13,641
34211 55	All other scissors and shears, including hedge and grass shears and pruners (except electric, aviation and tinnerns snips, BX and wire filament cutters, etc.).....	16,393	7,712
34211 61	Manicure and pedicure scissors and implements.....	8,109	6,106
34211 98	Other cutlery.....	9,883	8,686
34211 00	Cutlery, scissors, shears, trimmers and snips, not specified by kind.....	1,381	3,894
34212 --	Razor blades and razors except electric.....	130,361	80,713
34212 11	Safety razors.....	130,361	80,713
34212 51	Razor blades.....		
34210 00	Cutlery, not specified by kind.....	4,273	4,138

<sup>1</sup>For 1963, represents shipments of 20,140 thousand units.<sup>2</sup>For 1958, represents shipments of 15,872 thousand units valued at \$8,978 thousand; the remaining \$3,458 thousand had no quantity reported.

U.S. DEPARTMENT OF COMMERCE  
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OFFICIAL BUSINESS



# 1963 CENSUS OF MANUFACTURES

MC63(P)-34A-3



INDUSTRY SERIES

preliminary  
report

## Hand and edge tools

SIC Code 3423

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Hand and Edge Tools Industry shipped products valued at \$554 million, an increase of 26 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 3 percent from 1958 but a decrease of 8 percent from 1962 to a total of 31 thousand employees in 1963. Value added by manufacture amounted to \$355 million in 1963, an increase of 33 percent from 1958 but a decrease of 1 percent from 1962.

The Hand and Edge Tools Industry includes establishments engaged primarily in the manufacture of files and other hand and edge tools for metalworking, woodworking, and general maintenance. Establishments primarily engaged in manufacturing saws are classified in Industry 3425.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE HAND AND EDGE TOOLS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3423)

Year	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	715	253	31,144	174,484	24,312	48,259	124,292	354,831	204,616	553,697	10,782	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	33,715	180,042	26,062	53,853	125,953	358,111	234,550	589,247	12,141	4
1961 <sup>2</sup> .....	(NA)	(NA)	32,018	164,906	24,557	49,856	114,591	334,562	205,795	538,451	9,089	4
1960 <sup>2</sup> .....	(NA)	(NA)	31,106	156,003	24,165	48,854	109,501	315,934	185,436	492,595	8,330	3
1959 <sup>2</sup> .....	(NA)	(NA)	31,923	156,687	25,070	50,760	111,127	325,886	193,777	510,026	10,453	2
1958.....	763	250	30,273	142,551	23,626	45,720	99,674	267,316	168,173	440,150	8,588	(X)
1954 <sup>3</sup> .....	780	261	33,397	134,138	27,398	53,053	98,270	229,241	140,964	375,672	9,383	(X)
1947 <sup>3</sup> .....	852	(NA)	48,345	137,183	41,422	(NA)	107,005	230,890	123,443	354,333	(NA)	(X)
1939 <sup>3</sup> .....	539	(NA)	(NA)	(NA)	22,816	(NA)	26,874	68,134	34,046	102,180	(NA)	(X)

(NA) Not available. (X) Not applicable. <sup>3</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Hand and Edge Tools Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Hand and Edge Tools Industry amounted to \$554 million. Of this total, \$50 million were products primary to other industries; and \$50 million were receipts for miscellaneous activities. The industry shipments of primary products represented 90 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$531 million of hand and edge tools were shipped by all producers of these products. Of this total, \$453 million, or 85 percent, were shipped by plants classified in Industry 3423, Hand and Edge Tools while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 85 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE HAND AND EDGE TOOLS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3423)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	715	253	31,144	174,484	24,312	48,259	124,292	354,831	204,616	553,697	10,782	30,273	267,316
New England.....	118	44	5,625	31,177	4,323	8,841	21,839	54,433	33,474	85,140	2,486	6,265	48,572
Massachusetts....	56	20	2,965	16,279	2,262	4,500	11,027	27,977	18,786	44,594	839	2,926	22,039
Connecticut.....	28	13	2,103	12,417	1,587	3,367	8,836	22,042	13,044	34,468	1,249	2,024	16,491
Middle Atlantic....	167	76	8,439	44,592	6,736	13,146	32,910	94,177	55,499	149,737	3,091	7,375	63,432
New York.....	71	29	4,120	22,524	3,181	6,229	16,118	47,235	29,931	77,662	1,486	3,546	30,418
New Jersey.....	39	18	1,583	7,573	1,265	2,485	5,641	18,177	9,830	27,830	( <sup>1</sup> )	1,540	12,714
Pennsylvania.....	57	29	2,736	14,495	2,290	4,432	11,151	28,765	15,738	44,245	1,160	2,289	20,300
East North Central	224	76	10,172	59,555	8,056	15,852	43,282	130,201	74,945	204,381	3,336	10,045	98,601
Ohio.....	76	28	4,435	27,337	3,467	6,867	19,547	54,157	30,531	84,697	1,241	4,410	40,745
Illinois.....	67	24	3,085	17,976	2,392	4,711	12,573	41,037	21,099	61,602	956	3,369	33,219
Michigan.....	42	12	563	3,042	432	852	2,145	5,745	3,511	9,215	( <sup>1</sup> )	658	5,190
West North Central	57	26	2,493	14,041	2,050	4,159	10,482	25,164	13,292	38,141	( <sup>1</sup> )	2,985	24,170
Minnesota.....	13	7	880	4,858	677	1,398	3,415	8,104	4,639	12,682	( <sup>1</sup> )	853	6,533
South.....	47	13	2,575	13,756	1,907	3,831	9,175	29,166	15,353	42,643	820	1,738	15,248
West.....	102	18	1,840	11,363	1,240	2,430	6,604	21,690	12,053	33,655	557	1,865	17,293
California.....	82	12	1,425	8,942	937	1,844	5,059	16,946	9,221	25,972	( <sup>1</sup> )	1,474	13,768

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF HAND AND EDGE TOOLS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Hand and Edge Tools Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3423- --	Hand and edge tools, total.....	(X)	531,476	(X)	434,202
34231 --	Mechanics' hand service tools.....	(X)	263,294	(X)	188,460
34231 11	Pliers.....	18,464	23,842	14,683	17,818
34231 21	Ball peen hammers.....	1,979	2,912	1,415	2,008
	Wrenches:				
34231 33	Socket.....	55,226	32,649	37,808	22,146
35231 35	Flat (open-end, box end and combination open-end and box).....	35,558	24,837	26,175	16,931
34231 37	Adjustable.....	9,656	18,423	8,464	17,611
34231 39	All other.....	31,306	20,845	11,794	9,962
34231 41	Screw drivers.....	52,993	21,068	<sup>r</sup> 37,356	15,947
34231 51	Automobile jacks, mechanical (exclude hydraulic and pneumatic).....	10,444	18,049	(X)	73,261
34231 98	Other mechanics' hand service tools.....	(X)	90,697	(X)	12,776
34231 00	Mechanics' hand service tools, not specified by kind.....	(X)	9,972	(X)	12,776
34232 --	Edge tools hand operated.....	(X)	97,947	(X)	90,614
34232 11	Agricultural edged hand tools, except scissors and shears (scythes, sickles, grass hooks, machetes, hay knives, and similar tools).....	(X)	3,110	(X)	2,647
34232 31	Axes, adzes, and hatchets.....	(X)	6,429	(X)	7,737
34232 51	Cutting dies, for use in cutting cloth, paper, leather, etc., excluding dies for cutting metal.....	(X)	20,283	(X)	14,454
34232 55	Machine knives, except metal cutting.....	(X)	13,539	(X)	10,362
34232 61	Can openers (except electric).....	(NA)	6,647	(NA)	11,833
34232 71	Auger bits.....	4,958	4,587	<sup>r</sup> 4,950	4,725
34232 83	Chisels.....	7,553	5,837	(NA)	4,634
34232 81	Planes.....	(X)	35,127	(X)	2,621
34232 98	Other edge tools.....	(X)	35,127	(X)	24,717
34232 00	Edge tools, not specified by kind.....	(X)	2,388	(X)	6,884
34233 --	Files, rasps, and file accessories and other hand tools.....	(X)	149,678	(X)	142,017
34233 11	Shovels, spades, scoops, telegraph spoons, and scrapers.....	(X)	21,755	(X)	18,839
34233 21	Light forged hammers, under 4 pounds, excluding ball peen hammers.....	(X)	8,819	(X)	7,778
34233 31	Heavy forged tools (sledges, 4 pounds and over, picks, pick mattocks, and mauls).....	(X)	4,309	(X)	3,464
34233 41	Steel goods (forks, hoes, rakes, weedeers, etc.).....	(X)	20,343	(X)	19,433
34233 61	Metalworking files and rasps, including precision files.....	62,760	25,141	65,411	26,722
34233 71	Woodworking files and rasps.....	(NA)	970	2,791	1,262
34233 81	Soldering irons (electric).....	1,754	8,435	2,732	9,036
34233 98	Other hand tools, except edge tools.....	(X)	55,854	(X)	48,092
34233 00	Files, rasps and file accessories and other hand tools, not specified by kind.....	(X)	4,052	(X)	7,391
34230 00	Hand and edge tools, except machine tools and hand saws, n.e.c.....	(X)	20,557	(X)	13,111

n.e.c. Not elsewhere classified. (NA) Not available. (X) Not applicable. <sup>r</sup>Revised.

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U.S. DEPARTMENT OF COMMERCE

# 1963 CENSUS OF MANUFACTURES



MC63(P)-34A-4

INDUSTRY SERIES

preliminary  
report

## Hand saws and saw blades

SIC Code 3425

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Hand Saws and Saw Blades Industry shipped products valued at \$102 million, an increase of 16 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 8 percent from 1958 and 4 percent from 1962 to a total of 5.1 thousand employees in 1963. Value added by manufacture amounted to \$65 million in 1963, an increase of 20 percent from 1958 and practically equal to 1962.

The Hand Saws and Saw Blades Industry includes establishments engaged primarily in the manufacture of hand saws and saw blades for hand and power driven saws. Establishments primarily engaged in manufacturing power driven sawing machines are classified in Major Group 35.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE HAND SAWS AND SAW BLADES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3425)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	76	42	5,095	29,148	3,768	7,721	19,624	64,657	38,610	101,805	6,342	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	5,285	29,116	3,957	8,046	18,866	64,884	37,604	102,702	2,156	5
1961 <sup>2</sup> .....	(NA)	(NA)	5,494	29,723	4,100	8,131	19,095	67,489	38,293	102,257	1,763	5
1960 <sup>2</sup> .....	(NA)	(NA)	5,453	29,708	4,045	8,389	19,490	65,240	34,767	100,107	2,300	2
1959 <sup>2</sup> .....	(NA)	(NA)	5,657	30,946	4,321	8,640	21,403	67,539	38,479	105,205	11,757	1
1958.....	89	38	5,509	28,311	4,077	7,883	18,482	53,658	32,799	87,626	1,225	(X)
1954 <sup>3</sup> .....	99	42	6,879	29,287	5,327	10,320	19,927	51,097	33,834	88,426	1,582	(X)
1947 <sup>3</sup> .....	89	43	8,441	25,600	7,380	15,543	20,872	42,975	27,455	70,430	(NA)	(X)
1939 <sup>3</sup> .....	87	(NA)	4,902	7,097	4,072	(NA)	5,198	11,686	6,785	18,471	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Hand Saws and Saw Blades Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Hand Saws and Saw Blades Industry amounted to \$102 million. Of this total, \$20 million were products primary to other industries; and \$11 million were receipts for miscellaneous activities. The industry shipments of primary products represented 78 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 82 percent.

The total value of shipments for the industry (i.e. the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$83 million of Hand Saws and Saw Blades were shipped by all producers of these products. Of this total, \$71 million, or 85 percent, were shipped by plants classified in Industry 3425, Hand Saws and Saw Blades while the remainder was shipped by plants classified in other industries. The comparable ratio for 1958 was 90 percent.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.



## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE HAND SAWS AND SAW BLADES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3425)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	76	42	5,095	29,148	3,768	7,721	19,624	64,657	38,610	101,805	6,342	5,509	53,658
New England.....	11	9	2,012	11,999	1,526	3,175	9,081	30,071	17,048	46,381	5,213	1,921	23,111
Middle Atlantic...	19	12	694	4,063	506	1,020	2,545	6,757	3,437	10,223	(1)	1,676	11,356
New York.....	10	6	395	2,386	294	598	1,473	3,563	2,581	6,242	(1)	480	3,340
North Central.....	22	12	945	5,440	728	1,464	3,690	12,185	6,508	18,443	573	1,541	14,653
Ohio.....	12	5	311	1,661	244	489	1,229	3,127	1,727	4,740	(1)	245	1,457
South and West....	24	9	1,444	7,646	1,008	2,062	4,308	15,644	11,617	26,758	(1)	371	4,538

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3A.--QUANTITY AND VALUE OF HAND SAWS AND SAW BLADES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Hand Saws and Saw Blades Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3425---	Hand saws and saw blades, total.....	.....	(X)	83,156	(X)	75,629
	Power saw blades:					
	Woodworking:					
	Circular:					
34250 11	Solid tooth <sup>1</sup> .....	1,000 units.	(NA)	10,103	(NA)	8,639
34250 13	Inserted tooth.....	...do.....	(NA)	3,096	(NA)	6,059
	Band:					
34250 15	Under 2 inches.....	1,000 ft....	13,901	3,374	13,430	2,392
34250 17	2 inches and over.....	...do.....	743	3,655	565	3,098
34250 19	All other woodworking power saw blades.....	...do.....	(NA)	2,669	(NA)	2,947
	Metalworking:					
34250 31	Circular.....	1,000 units.	(NA)	4,315	(NA)	3,656
34250 35	Hack (power only).....	...do.....	4,773	6,921	2,758	4,862
34250 36	Band (flexible back, spring temper metal cutting and high speed metal cutting).....	1,000 ft....	119,664	22,838	112,472	15,969
34250 39	Other metalworking saw blades (saber, reciprocating, etc.).....	.....	(X)	1,427	(X)	(X)
	Hand operated saws:					
34250 43	Hacksaw blades (hand only).....	1,000 units.	59,144	12,071	58,160	11,637
34250 45	Carpenter crosscuts and rip saws.....	...do.....	703	1,519	1,518	3,916
34250 49	Other handsaws (heavy handsaws, including crosscut and buck, miter, coping, pruning, compass, etc., including handsaw frames and handsaw blades sold together or handsaw blades sold separately).....	.....	(X)	7,114	(X)	5,855
34250 00	Handsaws, saw blades and accessories, not specified by kind.....	.....	(X)	4,054	(X)	6,599

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes all types and sizes of solid-tooth circular saw blades for industrial and home workshop type circular saws as well as saw blades for portable power saws and for sawing attachments for portable hand tools.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR HAND SAWS AND SAW BLADES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3425-	Hand saws and saw blades.....1963...	87	148
	.....1958...	88	134

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34A-5



INDUSTRY SERIES

preliminary  
report

Hardware, n.e.c.

SIC Code 3429

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Hardware, N.E.C., Industry had total shipments valued at \$1,800 million, an increase of 34 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 1 percent from 1958 but a decrease of 1 percent from 1962 to a total of 89 thousand employees in 1963. Value added by manufacture amounted to \$1,075 million in 1963, an increase of 42 percent from 1958 and 8 percent from 1962.

The Hardware, N.E.C., Industry includes establishments engaged primarily in the manufacture of miscellaneous metal products usually termed "hardware" and not elsewhere classified. Establishments primarily engaged in manufacturing bolts and nuts are classified in Industry 3452, nails and spikes in Major Group 33, cutlery in Industry 3421, hand tools in Industry 3423, and pole line and transmission hardware in Major Group 36.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE HARDWARE, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3429)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,070	447	88,965	533,102	71,003	146,750	386,054	1,075,315	737,313	1,800,434	71,065	(X)
1962.....	(NA)	(NA)	89,914	500,554	69,177	142,035	355,194	966,592	693,650	1,651,811	36,601	3
1961.....	(NA)	(NA)	87,174	465,186	65,813	133,105	320,668	838,328	636,879	1,467,415	39,234	3
1960.....	(NA)	(NA)	92,200	497,107	71,435	145,050	344,108	886,139	668,765	1,552,388	37,785	2
1959.....	(NA)	(NA)	89,350	471,996	69,555	145,735	329,510	872,944	647,737	1,500,780	26,858	1
1958.....	1,059	454	88,105	433,304	68,078	134,166	301,509	754,943	590,744	1,347,879	25,644	(X)
1954 <sup>3</sup> .....	869	361	88,296	380,464	72,708	147,920	286,371	638,962	483,219	1,126,335	47,436	(X)
1947 <sup>3</sup> .....	730	(NA)	77,473	216,558	65,611	133,018	169,642	350,511	235,499	586,010	(NA)	(X)
1939 <sup>3</sup> .....	462	(NA)	(NA)	(NA)	38,035	(NA)	43,373	100,767	66,615	167,382	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

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and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure

available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Hardware, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Hardware, N.E.C., Industry amounted to \$1,800 million. Of this total, \$160 million were products primary to other industries; and \$75 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 89 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,679 million of hardware, n.e.c., were shipped by all producers of these products. Of this total, \$1,566 million, or 93 percent, were shipped by plants classified in Industry 3429, Hardware, N.E.C., while the remainder was shipped by plants classified in other industries. The comparable 1958 ratio was also 93 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965

## 1963 CENSUS OF MANUFACTURES

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through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE HARDWARE, N.E.C., INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3429)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,070	447	88,965	533,102	71,003	146,750	386,054	1,075,315	737,313	1,800,434	71,065	88,105	754,943
New England.....	106	48	13,698	71,955	10,450	20,150	49,479	123,770	82,952	203,032	8,480	16,722	113,863
Massachusetts.....	38	15	2,780	12,753	2,193	4,226	9,645	18,952	13,084	31,419	638	3,596	23,087
Connecticut.....	55	27	10,035	54,986	7,572	14,502	36,616	99,790	64,339	161,060	7,683	12,225	85,898
Middle Atlantic.....	229	92	13,889	85,532	11,111	23,378	61,823	172,053	116,783	286,277	13,624	14,089	116,540
New York.....	134	48	5,805	33,473	4,459	9,247	22,240	60,820	53,056	112,944	7,060	5,141	42,809
New Jersey.....	39	16	5,317	38,369	4,423	9,663	29,942	87,949	46,891	133,404	(D)	5,271	49,540
Pennsylvania.....	56	28	2,767	13,690	2,229	4,468	9,641	23,284	16,836	39,929	(D)	3,677	24,191
East North Central	347	169	43,171	280,535	35,310	74,749	212,695	586,625	403,222	987,652	37,437	41,835	384,617
Ohio.....	65	29	8,476	58,771	6,642	13,760	43,436	133,261	92,402	226,278	13,827	8,038	77,587
Indiana.....	34	18	2,753	15,820	2,183	4,513	11,132	33,164	28,820	61,740	3,186	2,706	23,407
Illinois.....	113	58	11,889	66,751	9,534	19,521	48,387	124,672	79,510	204,567	4,368	11,391	109,142
Michigan.....	107	52	17,636	125,644	14,924	32,843	99,774	266,257	186,309	450,458	14,883	17,879	157,190
Wisconsin.....	28	12	2,417	13,549	2,027	4,112	9,966	29,271	16,181	44,609	1,173	1,821	17,291
West North Central	43	17	1,946	10,279	1,595	3,043	6,638	19,432	18,820	38,127	772	1,944	17,003
Minnesota.....	15	4	475	2,275	365	668	1,212	5,643	4,764	10,362	(1)	632	4,911
Iowa.....	7	4	454	2,260	366	633	1,459	4,243	6,955	11,327	(1)	419	5,576
Missouri.....	16	8	949	5,497	807	1,629	3,789	8,948	6,423	15,194	(1)	760	5,390
South Atlantic.....	54	20	2,715	11,167	2,180	4,463	7,976	24,196	16,450	40,805	856	1,970	11,295
North Carolina.....	13	7	784	3,354	647	1,340	2,403	5,538	4,653	10,185	(1)	528	3,314
Florida.....	24	8	897	3,848	640	1,344	2,454	11,675	7,449	19,228	(1)	377	2,214
East South Central	29	17	3,809	15,558	3,112	5,974	10,662	34,383	23,346	55,677	2,252	2,544	19,828
West South Central	42	9	1,005	4,179	752	1,549	2,643	7,802	7,768	15,224	(1)	831	6,298
Arkansas.....	6	4	552	2,332	372	781	1,263	4,792	5,271	9,707	(1)	518	3,878
Texas.....	28	4	264	1,245	211	465	901	1,989	2,318	4,315	(1)	148	1,063
West.....	220	75	8,732	53,897	6,493	13,444	34,138	107,054	67,972	173,640	7,341	8,170	85,499
California.....	185	64	8,148	50,884	6,057	12,597	31,958	100,180	63,521	163,146	6,960	7,533	79,077

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.



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Table 3.—VALUE OF HARDWARE, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Hardware, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers	
		1963	1958
		Value (\$1,000)	Value (\$1,000)
3429- --	Hardware, n.e.c., total.....	1,678,960	1,224,108
34291 --	Transportation equipment hardware.....	777,449	472,157
34291 11	Marine hardware, including shackles, rope sockets, tackle blocks, wire rope, clips, clamps, and joiner's hardware.....	34,884	33,104
34291 31	Aircraft hardware.....	34,767	33,274
	Motor vehicle hardware, including lock units, door and window handles, window regulators, hinges, license plate brackets, instrument panel knobs, etc.:.....		
34291 51	Shipments to motor vehicle manufacturers (auto, truck, bus, trailer, etc.).....	1,668,612	1,359,478
34291 55	Shipments to all other customers.....	13,817	11,088
34291 98	Other transportation equipment hardware, including railroad car hardware....	22,187	27,980
34291 00	Transportation equipment hardware, not specified by kind.....	3,182	7,233
45292 --	Furniture hardware.....	95,334	77,409
34292 11	Furniture hardware (exclude casters), including hardware for office and household furniture.....	61,929	51,434
34292 53	Furniture casters.....	23,563	
34292 55	Other floor protective devices, including slides, glides, furniture rests, and desk leg cups.....	5,763	21,164
34292 00	Furniture hardware, not specified by kind.....	4,106	4,821
34293 --	Vacuum and insulated bottles, jugs, and chests.....	51,667	41,147
34293 15	Vacuum (air-evacuated) bottles, pitchers, servers, etc.....	35,167	22,928
34293 17	Insulated (portable and other than air-evacuated) picnic jugs, picnic chests, coolers, etc. (except those made principally of plastics).....	16,500	18,219
34294 --	Builders' hardware.....	471,725	387,083
34294 11	Padlocks.....	22,732	19,771
34294 23	Door locks, locksets, and lock trim.....	107,182	
34294 25	Night latches and deadlocks.....	9,326	97,799
34294 27	Emergency exit devices (antipanic) devices.....	10,056	
34294 31	Miscellaneous sash, screen, and shelf hardware (window hardware, transom hardware, door pulls, and bolts, screendoor hardware, etc.).....	50,369	52,959
34294 41	Door closers and checking devices, including floor types.....	41,081	30,239
34294 51	Hinges and butts, excluding cabinet hinges, including spring hinges.....	40,882	38,583
34294 61	Cabinet hardware, including cabinet hinges and cabinet locks.....	57,082	34,561
34294 71	Hangers, tracks, and related items, including overhead door hardware (except sliding and folding door hardware, residential and commercial).....	37,485	52,864
34294 73	Sliding and folding door hardware (residential and commercial).....	12,857	
34294 98	Other builder's hardware.....	64,116	47,572
34294 00	Builder's hardware, not specified by kind.....	14,557	12,735
34295 --	Other hardware.....	244,955	215,220
34295 12	Casket and casket shell hardware.....	13,617	10,845
34295 22	Casters and wheels, for dollies and industrial hand trucks.....	41,783	33,181
34295 32	Trunk and luggage hardware, including locks.....	15,015	11,181
34295 52	Fireplace fixtures and equipment, including dampers and irons, and fire screens.....	16,403	12,059
34295 62	Hose fittings and couplings.....	63,120	54,396
34295 65	Refrigerator and stove hardware.....	21,475	27,298
34295 98	Other hardware, including saddlery and harness hardware, but excluding drapery hardware.....	68,833	53,572
34295 00	Other hardware, not specified by kind.....	4,709	12,688
34290 00	Hardware, n.e.c., not specified by kind.....	37,830	31,092

n.e.c. Not elsewhere classified.

<sup>1</sup>Includes only the value of motor vehicle hardware reported as such. It is likely that an indeterminate amount of motor vehicle hardware was reported as motor vehicle parts and classified accordingly in the Motor Vehicle and Parts Industry.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34B-1

INDUSTRY SERIES

preliminary  
report

## Plumbing fixtures

SIC Code 3431

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Plumbing Fixtures Industry had total shipments valued at \$235 million, an increase of 10 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 11 percent from 1958 to a total of 11 thousand employees in 1963. Value added by manufacture amounted to \$140 million in 1963, an increase of 18 percent from 1958.

The Plumbing Fixtures Industry includes establishments engaged primarily in the manufacture of enameled iron, cast iron, or pressed metal sanitary ware. Establishments primarily engaged in manufacturing vitreous and semivitreous pottery sanitary ware are classified in Industry 3261; and those manufacturing porcelain enameled kitchen, household, and hospital ware in Industry 3461.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE PLUMBING FIXTURES INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3431)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	81	45	11,011	68,162	8,833	17,501	50,372	140,445	96,196	235,497	5,856
1958 <sup>3</sup> .....	63	41	12,432	67,848	10,058	19,179	50,754	118,555	95,207	214,872	8,928

Note: The data in tables 1 and 2 relate to establishments primarily engaged in the manufacture of metal plumbing fixtures.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

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and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Plumbing Fixtures Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Plumbing Fixtures Industry amounted to \$235 million. Of this total, \$24 million were products primary to other industries; and \$18 million were receipts for miscellaneous activities. The industry shipments of primary products represented 89 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 84 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$204 million of metal plumbing fixtures were shipped by all producers of these products. Of this total, \$194 million, or 95 percent, were shipped by plants classified in Industry 3431, Plumbing Fixtures while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 92.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing



industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE PLUMBING FIXTURES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3431)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	81	45	11,011	68,162	8,833	17,501	50,372	140,445	96,196	235,497	5,856	12,432	118,555
Northeast.....	26	11	1,925	11,574	1,541	2,834	8,607	20,997	16,993	37,635	820	1,941	18,455
Pennsylvania....	10	6	1,254	7,528	969	1,711	5,269	13,686	10,826	24,539	528	1,410	12,834
North Central.....	24	18	5,233	31,961	4,144	8,320	23,045	66,505	46,862	114,026	2,342	5,930	57,799
Illinois.....	7	6	723	4,740	509	1,013	3,001	10,380	6,011	16,573	(1) 677	677	7,624
South and West....	31	16	3,853	24,627	3,148	6,347	18,720	52,943	32,341	83,836	2,694	4,561	42,301

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.) Also, see note, table 1.

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF METAL PLUMBING FIXTURES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Plumbing Fixtures Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3431- --	Metal plumbing fixtures, total <sup>1</sup> .....	(X)	204,074	(X)	180,006
	Enameled iron and metal plumbing fixtures:				
34310 11	As reported in the census of manufactures <sup>2</sup> .....	(X)	196,538	(X)	168,259
	As reported on quarterly Form M34E.....	(X)	202,272	(X)	180,153
34310 02	Drinking fountains (cast iron and other metals, concrete and composition).....	42	(NA)	55	(NA)
34310 04	Lavatories, cast iron.....	1,882	(NA)	1,301	(NA)
34310 06	Lavatories, steel.....	637	(NA)	271	(NA)
	Kitchen sinks:				
34310 08	Cast iron.....	744	(NA)	818	(NA)
	Steel:				
34310 10	Porcelain enameled.....	1,800	(NA)	979	(NA)
34310 12	Stainless.....	924	(NA)	332	(NA)
34310 14	Other metals, vitreous china, and glazed earthenware.....	3	(NA)	2	(NA)
34310 16	Wash sinks (cast iron, steel, aluminum, concrete, and composition).....	19	(NA)	24	(NA)
34310 17	Service sinks, cast iron.....	100	(NA)	84	(NA)
34310 19	Service sinks (other metals, vitreous china, and glazed earthenware).....	22	(NA)	20	(NA)
34310 21	Sink and laundry tray combinations, cast iron.....	43	(NA)	57	(NA)
34310 23	Sink and laundry tray combinations, steel.....	9	(NA)	25	(NA)
34310 24	Laundry trays (vitreous china, cast iron, steel, and glazed earthenware).....	53	(NA)	77	(NA)
34310 25	Bathtubs, cast iron.....	1,588	(NA)	1,464	(NA)
34310 27	Bathtubs, steel.....	1,017	(NA)	697	(NA)
34310 28	Shower receptors, sold separately (steel, other metals, concrete and composition)..	15	(NA)	12	(NA)
34310 29	Showerstalls, including receptors, steel.....			179	(NA)
34310 31	Showerstalls, including receptors, (aluminum, monel, and other metal, concrete and composition).....	176	(NA)	2	(NA)
34310 98	Other metal plumbing fixtures.....	(X)	7,536	(X)	11,747

(NA) Not available. (X) Not applicable.

<sup>1</sup>The quantity data for plumbing fixtures were obtained from Census Quarterly Survey M34E. In this survey it is necessary to combine certain metal fixtures with fixtures made of other materials such as vitreous china, concrete, etc. Accordingly the quantity data do not relate exactly to the value figures shown for enameled iron and metal plumbing fixtures.<sup>2</sup>Differs from value of shipments of metal plumbing fixtures reported in the Census Quarterly Survey due to different methods of reporting values in the two surveys.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-34B-2



preliminary  
report

INDUSTRY SERIES

## Plumbing fittings, brass goods

SIC Code 3432

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Plumbing Fittings, Brass Goods Industry shipped products valued at \$333 million, an increase of 33 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 3 percent from 1958 to a total of 15 thousand employees in 1963. Value added by manufacture amounted to \$155 million in 1963, an increase of 28 percent from 1958.

The Plumbing Fittings, Brass Goods Industry includes establishments engaged primarily in the manufacture of plumbing fixture fittings and trim (brass goods). Establishments primarily engaged in the manufacture of steam or water line valves are classified in Industry 3494.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE PLUMBING FITTINGS, BRASS GOODS INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3432)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	250	102	15,129	79,336	12,271	23,988	58,118	154,517	181,271	333,333	6,540
1958 <sup>3</sup> .....	254	84	14,663	66,937	12,140	22,993	50,425	120,560	131,530	250,326	3,564

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available for 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Plumbing Fittings, Brass Goods Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Plumbing Fittings, Brass Goods Industry amounted to \$333 million. Of this total, \$30 million were products primary to other industries; and \$28 million were receipts for miscellaneous activities. The industry shipments of primary products represented 90 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$329 million of plumbing fittings, brass goods, were shipped by all producers of these products. Of this total, \$275 million, or 84 percent, were shipped by plants classified in Industry 3432, Plumbing Fittings, Brass Goods while the remainder was shipped by plants classified in other industries. The comparable 1958 ratio was 83 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. S series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE PLUMBING FITTINGS, BRASS GOODS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3432)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	250	102	15,129	79,336	12,271	23,988	58,118	154,517	181,271	333,333	6,540	14,663	120,560
Northeast.....	76	28	2,421	11,427	1,961	3,866	8,053	23,165	27,550	51,019	715	2,309	18,887
Connecticut.....	11	6	455	2,045	384	767	1,621	3,950	6,211	10,198	(1)	563	5,258
Pennsylvania....	15	5	543	2,308	469	911	1,825	3,664	4,907	8,475	(1)	586	2,868
North Central.....	90	44	7,164	40,047	5,705	11,066	28,888	76,788	87,291	161,538	2,880	6,563	54,108
Illinois.....	21	9	969	6,259	762	1,615	4,239	8,793	15,491	24,264	(1)	1,170	8,867
South and West....	84	30	5,544	27,862	4,605	9,056	21,177	54,564	66,430	120,776	2,945	5,791	47,565

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final Census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.--QUANTITY AND VALUE OF PLUMBING FITTINGS, BRASS GOODS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Plumbing Fittings, Brass Goods Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3432- --	Plumbing Fixture Fittings and Trim (Brass Goods), Total.....	(X)	328,648	(X)	259,485
34320 01	Bath and shower fittings:				
	Single control bath and shower fittings.....	1,526	7,620	5,125	34,251
34320 03	Other than single control fittings:				
	Bathtub fillers.....	1,416	4,988		
34320 05	Bathtub and shower combinations.....	2,022	16,400		
34320 07	Shower fittings (with shower heads).....	1,494	6,762		
34320 18	Bath drains and overflows.....	3,152	12,077	2,764	10,858
34320 19	Other bath and shower fittings, including single bath faucets, shower heads and pop-up drains sold separately, etc.....	3,120	9,047	( <sup>1</sup> )	( <sup>1</sup> )
	Lavatory fittings:				
	Combination 4 "center-set fittings (with or without pop-up drains):				
34320 20	Single control type.....	792	8,432	3,113	18,247
34320 22	Other type.....	2,787	15,113		
34320 23	Other combination fittings (with or without pop-up drains).....	1,908	12,786	1,316	11,386
34320 27	Single lavatory faucets (compression).....	1,484	2,861	2,837	4,647
34320 29	Other lavatory fittings, including pop-up drains sold separately.....	2,630	4,880	( <sup>1</sup> )	( <sup>1</sup> )
	Sink fittings:				
	Deck-type combination sink faucets:				
34320 30	Single control type.....	1,296	15,507	3,386	25,957
34320 32	Other type.....	3,313	19,589		
34320 33	Other combination sink faucets.....	1,336	7,900	1,179	7,274
34320 35	Single sink faucets.....	2,327	2,340	2,747	3,603
34320 39	Other sink fittings, including sink strainers sold separately.....	8,330	9,648	( <sup>1</sup> )	( <sup>1</sup> )
	Miscellaneous items:				
34320 47	Compression stops, including those with drains.....	11,524	7,954	14,056	8,360
34320 48	Sediment, lawn, hose bibb and sill faucets.....	13,659	10,274	( <sup>1</sup> )	( <sup>1</sup> )
34320 44	Double laundry-tray faucets.....	604	1,991	632	2,253
34320 45	P traps.....	7,866	9,956	5,673	7,606
34320 46	S traps.....	2,673	4,407	1,539	2,636
34320 51	Lawn hose nozzles and lawn sprinklers.....	(X)	27,590	(X)	190,771
34320 53	Water closet tank flushing controls.....	(X)	20,007		
34320 98	Other miscellaneous items.....	(X)	69,697		
34320 00	Plumbing fixture fittings and trim, not specified by kind.....	(X)	20,822	(X)	31,636

(X) Not applicable.

<sup>1</sup>For 1958, product codes 34320 19, 34320 29, 34320 39 and 34320 48 are included with product code 34320 98.

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# 1963 CENSUS OF MANUFACTURES

MC63(P) 34B-3



## INDUSTRY SERIES

### Heating equipment except electric SIC Code 3433

preliminary  
report

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Heating Equipment, Except Electric, Industry had total shipments valued at \$1,008 million, an increase of 10 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 7 percent from 1958 and 5 percent from 1962 to a total of 42 thousand employees in 1963. Value added by manufacture amounted to \$495 million in 1963, an increase of 14 percent from 1958 but a decrease of 5 percent from 1962.

The Heating Equipment, Except Electric, Industry includes establishments engaged primarily in the manufacture of heating equipment for all purposes, other than power, including all gas, oil, and stoker coal fired equipment for the automatic utilization of gaseous, liquid and solid fuels. Establishments primarily engaged in manufacturing electric stoves and ranges are classified in Industry 3631; boiler shops primarily engaged in the production of industrial, power and marine boilers in Industry 3443; and industrial process furnaces and ovens in Industry 3567.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.—GENERAL STATISTICS FOR THE HEATING EQUIPMENT, EXCEPT ELECTRIC, INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3433)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	649	281	41,506	241,251	29,855	59,389	152,314	494,898	510,357	1,008,186	17,512	(X)
1962.....	(NA)	(NA)	43,873	244,985	31,054	61,494	149,846	522,469	531,537	1,046,284	12,800	4
1961.....	(NA)	(NA)	45,308	247,730	32,466	63,397	155,353	505,727	544,672	1,052,919	14,453	4
1960.....	(NA)	(NA)	45,726	243,887	33,191	64,278	152,798	511,946	517,154	1,019,355	13,114	3
1959.....	(NA)	(NA)	46,699	243,227	34,211	66,648	154,958	487,040	542,914	1,020,980	13,351	1
1958.....	672	303	44,680	222,681	32,433	63,178	142,329	432,799	470,630	912,878	13,415	(X)

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that comparable data for prior years are not available.

June 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Heating Equipment, Except Electric, Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Heating Equipment, Except Electric, Industry amounted to \$1,008 million. Of this total, \$229 million were products primary to other industries; and \$73 million were receipts for miscellaneous activities. The industry shipments of primary products represent 76 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 81 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$887 million of heating equipment products, except electric were shipped by all producers of these products. Of this total, \$707 million, or 80 percent, were shipped by plants classified in Industry 3433, Heating Equipment, Except Electric, while the remainder was shipped by plants classified in other industries. The comparable ratio in 1958 was also 80 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports

will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE HEATING EQUIPMENT, EXCEPT ELECTRIC, INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3433)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	649	281	41,506	241,251	29,855	59,389	152,314	494,898	510,357	1,008,186	17,512	44,680	432,799
New England.....	47	16	1,644	9,344	1,199	2,503	5,968	16,432	17,802	34,071	668	1,344	11,438
Massachusetts....	24	6	780	4,584	585	1,238	2,965	7,852	6,672	14,406	(1)	851	7,256
Connecticut.....	13	8	672	3,895	465	932	2,271	6,564	9,384	15,934	(1)	415	3,631
Middle Atlantic...	191	81	11,844	72,175	8,710	17,303	46,860	152,294	150,159	301,945	4,372	12,678	126,853
New York.....	62	22	3,624	22,223	2,671	5,358	14,798	44,804	46,370	92,495	1,069	4,206	39,909
New Jersey.....	53	21	2,630	15,406	1,868	3,677	9,358	31,128	34,984	66,428	1,150	2,812	23,960
Pennsylvania....	76	38	5,590	34,546	4,171	8,268	22,704	76,362	68,805	143,022	2,153	5,660	62,984
East North Central	181	93	16,759	101,176	11,163	22,198	59,762	207,222	216,421	422,346	6,960	18,567	188,494
Ohio.....	54	29	6,016	39,457	4,110	8,432	23,991	87,960	83,356	168,877	2,758	6,023	66,143
Indiana.....	26	17	3,113	18,828	2,003	3,827	9,892	37,768	48,730	85,817	2,136	2,459	22,402
Illinois.....	50	24	3,904	22,909	2,801	5,498	13,918	48,670	47,365	95,004	1,262	6,067	64,515
Michigan.....	35	12	1,665	8,091	922	1,862	4,915	14,668	20,206	37,218	(1)	1,706	13,165
Wisconsin.....	16	11	2,061	11,891	1,327	2,579	7,046	18,156	16,764	35,430	(1)	2,312	22,269
West North Central	53	22	3,067	16,789	2,500	5,101	12,560	38,355	41,466	78,737	1,199	3,192	40,726
South.....	73	33	5,202	23,873	4,054	7,942	15,386	45,850	48,838	99,631	3,532	5,348	34,262
Tennessee.....	9	8	1,686	7,804	1,264	2,253	4,761	13,878	17,987	33,094	(1)	1,972	13,256
Alabama.....	5	4	910	3,714	791	1,595	2,751	6,879	6,213	13,140	(1)	735	3,988
Texas.....	19	3	444	2,335	282	609	1,234	6,518	5,752	12,032	(1)	567	4,992
West.....	104	36	2,990	17,894	2,229	4,342	11,778	34,745	35,671	71,456	781	3,551	31,026
California.....	72	29	2,613	16,076	1,943	3,808	10,487	31,186	32,313	64,547	689	2,860	26,565

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was or relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF HEATING EQUIPMENT, EXCEPT ELECTRIC SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Heating Equipment, Except Electric, Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3433- --	Heating equipment, except electric, total.....		(X)	886,658	(X)	836,974
34331 --	Oil burners, residential, commercial and industrial (sold separately), except parts		(X)	42,165	(X)	46,601
34331 10	Reported in the census of manufactures.....		(X)	36,808	(X)	39,835
	Reported on Annual Form MA-34N.....	Units.....	1,423,566	34,667	1,414,658	37,227
	Residential (sold separately):					
34331 13	High-pressure atomizing.....	..do.....	369,703	18,930	365,323	20,747
34331 11	Low-pressure atomizing.....	..do.....			12,820	1,089
34331 15	Pot natural draft vaporizing.....	..do.....	10,778	720	2,387	93
34331 17	Pot mechanical draft vaporizing.....	..do.....				
34331 19	Rotary (atomizing and vaporizing).....	..do.....	1,483	194	1,885	220
	Commercial and industrial (sold separately): <sup>2</sup>					
34331 25	Low-pressure atomizing.....	..do.....	20,439	4,960	12,059	2,951
34331 27	High-pressure atomizing.....	..do.....	17,066	5,334	13,619	4,300
34331 29	Rotary atomizing.....	..do.....	4,097	4,529	6,565	7,827
	Furnace-burner units:					
	Residential:					
34331 51	High pressure atomizing.....	..do.....	73,975	(X)	131,014	(X)
34331 59	All other.....	..do.....	2,687	(X)	13,862	(X)
34331 65	Commercial and industrial.....	..do.....	(D)	(X)	(D)	(X)
	Boiler-burner units:					
	Residential:					
34331 31	High-pressure atomizing.....	..do.....	49,746	(X)	48,568	(X)
34331 39	All other.....	..do.....	10,065	(X)	14,121	(X)
34331 45	Commercial and industrial.....	..do.....	3,188	(X)	2,665	(X)
34331 71	Oil burners, range type (sleeve type and pot type for use in water heaters, stoves, ranges, etc.).....	..do.....	(NA)	3,977	(NA)	2,136
34331 00	Oil burners, not specified by kind.....	..do.....	(X)	1,380	(X)	4,630
34332 --	Warm air furnaces (except floor and wall), except parts:					
	Reported in the census of manufactures.....		(X)	201,361	(X)	232,530
	Reported on Annual Form MA-34N.....	Units.....	1,384,459	197,510	1,234,685	224,244
	Forced air type (cast iron and steel):					
	Solid fuel (coal, coke, and wood):					
34332 11, 21	150,000 BTU bonnet output and under.....	..do.....	11,380	2,856	13,758	3,862
34332 12, 22	Over 150,000 BTU bonnet output.....	..do.....	867	417		
	Oil:					
34332 13, 23	150,000 BTU bonnet output and under.....	..do.....	240,633	47,567	328,959	78,239
34332 14, 24	Over 150,000 BTU bonnet output.....	..do.....	18,362	8,275		
	Gas:					
34332 15, 25	150,000 BTU bonnet output and under.....	..do.....	1,067,896	123,242	832,520	133,161
34332 16, 26	Over 150,000 BTU bonnet output.....	..do.....	25,437	12,212		
	Gravity air-flow type (cast iron and steel):					
34332 31	Solid fuel.....	..do.....	9,517	1,857	26,467	4,994
34332 35	Oil.....	..do.....	204	43	2,455	635
34332 37	Gas.....	..do.....	10,163	1,041	30,526	3,353
34333 --	Cast iron heating boilers, radiators, and convectors, except parts.....		(X)	138,803	(X)	121,491
	Cast iron boilers:					
34333 20	Reported on Annual Form MA-34N.....	1,000 lbs....	188,497	73,741	215,763	63,560
	Reported in the census of manufactures.....	..do.....	188,497	73,741	196,455	58,624
34333 11	Oil.....	..do.....	63,687	22,725	93,112	24,019
34333 13	Gas.....	..do.....	100,495	42,820	84,306	29,098
34333 15	Solid fuel.....	..do.....	24,315	8,196	19,037	5,507
	Radiators and convectors:					
	Cast iron:					
34333 30	Reported in the census of manufactures.....		(X)	12,551	(NA)	18,156
34333 50	Reported on Annual Form MA-34N.....	1,000 sq. ft. of radiation.	15,925	12,469	22,350	16,754
34333 81	Steel, residential and industrial.....	..do.....	19,700	7,820	17,734	8,601
	Aluminum:					
34333 72	Residential.....	..do.....	63,498	22,674	(NA)	31,569
34333 74	Industrial and special types.....	..do.....	(NA)	17,127		
34333 79	Other nonferrous metal.....	..do.....				
34333 00	Heating boilers, radiators, and convectors, not specified by kind.....	..do.....	(X)	4,890	(X)	4,541

See footnotes at end of table.



Table 3.—QUANTITY AND VALUE OF HEATING EQUIPMENT, EXCEPT ELECTRIC SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
34334 --	Domestic heating stoves (except electric), except parts: Reported in the census of manufactures.....	Units.....	(X)	69,462	(X)	69,774
	Reported on Annual Form MA-34N.....		2,218,239	67,549	2,604,360	73,782
	Gas:					
34334 11	Vented circulators.....	..do.....	362,306	24,283	436,535	25,793
34334 13	Unvented circulators.....	..do.....	667,448	8,661	711,499	10,280
34334 15	Radiants.....	..do.....	184,468	2,425	235,899	2,771
34334 17	All other (including laundry stoves).....	..do.....	82,483	1,556	101,035	797
34334 27	Wood (sheet-metal airtight type).....	..do.....	279,497	1,437	342,140	2,160
	Coal and wood (other than sheet-metal airtight types):					
34334 31	Circulators (standard and magazine types).....	..do.....	78,969	4,844	80,077	4,543
34334 33	Magazine radiants.....	..do.....	60,994	1,956	62,346	2,236
34334 35	Oaks and hot blasts.....	..do.....	21,473	435	23,872	501
34334 37	Laundry stoves (without cored fire pots).....	..do.....	34,306	410	39,905	459
34334 39	All other (including kitchen heaters, caboose, schoolroom, woodbox, etc.)	..do.....	73,996	1,903	104,318	2,159
	Kerosene, gasoline, and fuel oil:					
34334 41	Flue-connected circulators and radiant circulators with vaporizing pot-type burners.....	..do.....	179,991	17,575	193,701	14,412
34334 43	Flue-connected radiant heaters (without casing) and trailer heaters, equipped with vaporizing pot-type burners.....	..do.....			59,515	5,165
34334 45	Flue-connected heater equipped with sleeve burner.....	..do.....			213,518	2,506
34334 47	Unvented portable kerosene heaters.....	..do.....	192,308	2,064		
34335 --	Steel heating boilers (except electric), except parts.....	Units.....	(X)	70,073	(X)	62,826
	Steel heating boilers (15 PSI steam working pressure and under, and all hot water boilers):					
34335 12	294 sq. ft. of heating surface or less.....	Units.....	124,912	36,764	177,476	28,384
	Over 294 sq. ft. of heating surface:					
34335 21	Horizontal fire box.....	..do.....	1,621	7,143	19,063	14,711
34335 31	Scotch type.....	..do.....	2,856	16,144	3,797	17,963
34335 43	Other.....	..do.....	(NA)	7,853		
34335 00	Steel heating boilers, not specified by kind.....	Units.....	(X)	2,169	(X)	1,768
34336 --	Other heating equipment, except electric, including parts.....	Units.....	(X)	321,594	(X)	268,037
34336 12	Gas burners (for furnaces, boilers, water heaters, etc.):					
	Residential, commercial and industrial, sold separately (except gas conversion):					
	Quantity reported.....	Units.....	69,903	11,194	(X)	9,055
	Quantity not reported.....	Units.....	(X)	3,706		
34336 14	Gas conversion burners, residential, commercial, and industrial.....	Units.....	105,913	10,197	135,365	12,628
34336 18	Parts and attachments for gas burners (sold separately).....	Units.....	(X)	9,106	(X)	4,405
34336 19	Floor and wall furnaces:					
	Reported in the census of manufactures.....	Units.....	(X)	35,915	(X)	28,963
	Reported on Annual Form MA-34N.....		525,994	34,242	494,502	32,306
34336 21	Oil floor furnaces.....	..do.....	10,544	1,522	15,828	1,739
34336 23	Gas floor furnaces.....	..do.....	81,030	5,400	98,541	7,074
34336 25	Oil wall furnaces.....	..do.....	13,422	1,320	24,681	2,599
34336 27	Gas wall furnaces.....	..do.....	420,998	26,000	355,455	20,894
	Unit heaters:					
	Gas fired:					
34336 33	Reported in the census of manufactures.....	Units.....	(X)	20,969	(X)	347,912
	Reported on Annual Form MA-34N.....		139,566	19,955	(NA)	20,570
34336 32	Centrifugal fan type.....	..do.....	7,671	1,585	(NA)	4,153
34336 37	Propeller fan type.....	..do.....	131,895	18,370	(NA)	16,417
34336 34	Steam or hot water heating elements:					
	Reported in the census of manufactures.....	Units.....	(X)	25,501	(X)	(3)
	Reported on quarterly Form M35H.....		(X)	26,734	(X)	23,137
34336 31	Centrifugal fan type.....	..do.....	(X)	14,741	(X)	11,746
34336 36	Propeller fan type.....	..do.....	(X)	11,993	(X)	11,391
34336 35	Heavy-duty forced warm air type (over 400,000 BTU/hr.).....	Units.....	(NA)	2,677	(NA)	(NA)
34336 39	Duct furnaces:					
	Reported in the census of manufactures.....	Units.....	(X)	6,044	(X)	(NA)
	Reported on Annual Form MA-34N.....		32,794	5,871	(NA)	(NA)
34336 40	Heat transfer coils:					
	Reported in the census of manufactures.....	Units.....	(X)	9,736	(X)	8,075
	Reported on quarterly Form M35H.....		(X)	9,250	(X)	8,437
34336 41	Copper or aluminum.....	..do.....	(X)	7,857	(X)	8,160
34336 42	All other.....	..do.....	(X)	1,393	(X)	277
34336 52	Range boilers, expansion tanks and hot water storage tanks:					
	Reported in the census of manufactures.....	Units.....	(X)	9,015	(X)	9,462
	Reported on Annual Form MA-34N.....		275,861	8,838	322,722	9,430
34336 51	Range boilers.....	..do.....	33,130	804		
34336 53	Expansion tanks (including basement tanks).....	..do.....	207,912	2,622	(NA)	9,430
34336 55	Hot water storage tanks.....	..do.....	34,819	5,412		

See footnotes at end of table.

Table 3.—QUANTITY AND VALUE OF HEATING EQUIPMENT, EXCEPT ELECTRIC SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
	Other heating equipment, except electric, including parts—Continued					
	Mechanical stokers:					
34336 54	Reported in the census of manufactures.....	Units.....	(X)	9,293	(X)	9,328
	Reported on Annual Form MA-34N.....		8,210	9,547	16,005	(NA)
34336 56	Class 1 (capacity under 61 pounds of coal per hour):					
	Bituminous.....	...do.....	2,317	483	4,797	(NA)
	Anthracite:					
34336 57	Conversion stokers <sup>4</sup> .....	...do.....	118	42	626	(NA)
34336 62	Integral units <sup>5</sup> .....	...do.....	4,121	2,470	7,357	(NA)
	Class 2 (capacity 61 to 100 pounds of coal per hour):					
34336 63	Bituminous.....	...do.....	409	159	766	(NA)
34336 64	Anthracite.....	...do.....	63	49	198	(NA)
34336 65	Class 3 (capacity 100 to 300 pounds of coal per hour).....	...do.....	669	452	1,346	(NA)
34336 66	Class 4 (capacity 301 to 1,200 pounds of coal per hour).....	...do.....	309	387	679	(NA)
	Class 5 (capacity 1,201 pounds of coal per hour and over):					
34336 67	Installed under fire-tube boilers.....	...do.....	29	201	66	(NA)
34336 68	Installed under water-tube boilers.....	...do.....	175	5,304	170	(NA)
	Parts for unit heaters and unit ventilators:					
34336 59	Reported in the census of manufactures.....	.....	(X)	2,252	(X)	( <sup>6</sup> )
	Reported on quarterly Form M35H.....	.....	(X)	2,048	(X)	(NA)
	Unit ventilators:					
34336 60	Reported in the census of manufactures.....	.....	(X)	27,261	(X)	29,903
	Reported on quarterly Form M35H.....	.....	(X)	25,984	(X)	28,879
34336 61	Tanks for water heaters (sold separately).....	Units.....	249,381	4,711	779,429	15,413
	Parts and attachments for heating equipment (sold separately):					
34336 73	For warm air furnaces.....	.....	(X)	17,585	(X)	11,915
34336 74	For cast iron and steel heating boilers.....	.....	(X)	15,512	(X)	11,037
34336 83	For mechanical stokers.....	.....	(X)	3,045	(X)	5,154
34336 85	For oil burners.....	.....	(X)	14,565	(X)	9,403
34336 98	Other heating equipment, except electric (including incinerators, solar heaters, and circulating fireplace heaters) and other parts for heating equipment, except electric (sold separately).....	.....	(X)	69,483	(X)	634,991
34336 00	Other heating equipment, not specified by kind.....	.....	(X)	13,827	(X)	20,390
34330 00	Heating equipment, not specified by kind.....	.....	(X)	43,200	(X)	35,715

(D) Withheld to avoid disclosing figures for individual companies. (NA) Not available. (X) Not applicable. <sup>R</sup>Revised.<sup>1</sup>Excludes furnace-burner and boiler-burner units, product codes 3433151, 59, 65, 31, 39 and 45. The total number of oil burners including such units is 563,227 in 1963 and 624,688 in 1958.<sup>2</sup>Commercial and industrial burners are those with consumption rates of 6 gallon per hour or more.<sup>3</sup>In 1958, the value of steam or hot water heating elements were included with the value for gas-fired unit heaters.<sup>4</sup>Conversion stoker—a conversion stoker is a mechanical stoker which may be installed in any of the common types of furnaces or boilers.<sup>5</sup>Integral unit—an integral unit consists of a boiler or furnace, an automatic coal-feeding mechanism, accessories, and usually a metal enclosure, the whole assembly having been designed as a complete, compact and coordinated heating unit.<sup>6</sup>Parts for unit heaters and unit ventilators are included with other heating equipment, except electric, and parts for other heating equipment, except electric, code 3433698 for 1958.

# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.



U.S. DEPARTMENT OF COMMERCE

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34C-1



INDUSTRY SERIES

preliminary  
report

## Fabricated structural steel

SIC Code 3441

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Fabricated Structural Steel Industry shipped products valued at \$1,919 million, an increase of 1 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 6 percent from 1958 and an increase of 8 percent from 1962 to a total of 86 thousand employees in 1963. Value added by manufacture amounted to \$818 million in 1963, a decrease of 1 percent from 1958 and an increase of 17 percent from 1962.

The Fabricated Structural Steel Industry includes establishments engaged primarily in the manufacture of fabricated iron and steel or other metal for structural purposes, for bridges, buildings; and sections for ships, boats, and barges. Establishments primarily engaged in manufacturing metal doors, sash, frames, molding, and trim are classified in Industry 3442; and fabrication work done by construction contractors at the site of construction is classified in construction industries.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957

Table 1.--GENERAL STATISTICS FOR THE FABRICATED STRUCTURAL STEEL INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3441)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,720	821	85,888	529,128	64,014	129,034	351,302	817,898	1,141,911	1,918,656	28,239	(X)
1962.....	(NA)	(NA)	79,218	483,571	59,036	121,532	315,797	697,812	1,065,537	1,795,082	19,227	3
1961.....	(NA)	(NA)	84,323	494,908	62,387	126,422	321,587	776,124	1,038,035	1,814,112	25,215	2
1960.....	(NA)	(NA)	87,853	509,984	63,919	133,412	326,389	819,955	1,070,225	1,834,465	27,225	2
1959.....	(NA)	(NA)	82,719	462,506	59,853	119,918	290,618	702,028	970,348	1,710,458	28,409	1
1958 <sup>3</sup> .....	1,861	780	91,252	502,697	68,009	135,764	332,691	821,626	1,017,689	1,901,106	37,698	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

<sup>4</sup>Excludes data for Alaska and Hawaii. Number of "all employees" in these two States was between 100 and 249.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of

products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Fabricated Structural Steel Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Fabricated Structural Steel Industry amounted to \$1,919 million. Of this total, \$271 million were products primary to other industries; and \$232 million were receipts for miscellaneous activities. The industry shipments of primary products represent 84 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 87 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,590 million of fabricated structural steel were shipped by all producers of these products. Of this total, \$1,416 million, or 89 percent, were shipped by plants classified in Industry 3441, Fabricated Structural Steel, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 91.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment" and "value added." Similar preliminary and final reports



will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE FABRICATED STRUCTURAL STEEL INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3441)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,720	821	85,888	529,128	64,014	129,034	351,302	817,898	1,141,911	1,918,656	28,239	191,252	1,821,626
New England.....	93	40	2,828	17,651	2,072	4,239	11,160	29,277	38,214	65,421	909	2,982	28,593
Massachusetts.....	47	19	1,369	8,205	1,040	2,140	5,584	11,772	16,298	27,596	(2)	1,292	11,812
Connecticut.....	27	9	686	4,744	498	943	2,685	8,429	11,240	18,308	(2)	861	8,808
Middle Atlantic..	398	187	22,145	143,519	16,961	32,777	98,342	198,326	253,265	432,415	8,205	27,312	260,973
New York.....	192	81	5,878	42,009	4,452	9,271	28,204	67,264	67,574	131,607	1,264	7,522	77,809
New Jersey.....	75	32	2,902	19,467	2,254	4,331	12,809	33,051	31,885	62,713	700	3,309	39,860
Pennsylvania....	131	74	13,365	82,043	10,255	19,175	57,329	98,011	153,806	238,095	6,241	16,481	143,304
East North													
Central.....	382	175	18,861	121,508	13,705	27,715	78,999	204,069	258,192	449,779	6,053	20,886	189,899
Ohio.....	103	49	4,753	29,732	3,501	7,117	19,581	48,680	63,104	111,472	1,939	4,737	43,771
Indiana.....	48	28	4,722	29,036	3,529	6,820	19,413	42,339	69,794	103,794	792	4,551	29,575
Illinois.....	111	50	4,196	26,824	3,147	6,286	18,403	45,697	47,732	91,500	1,777	5,492	59,248
Michigan.....	81	34	3,545	24,216	2,540	5,344	15,819	48,180	52,573	98,947	1,061	3,895	36,972
Wisconsin.....	39	14	1,645	11,700	988	2,148	5,783	19,173	24,939	44,066	(2)	2,211	20,333
West North													
Central.....	121	62	5,676	34,621	4,129	8,511	21,912	60,197	92,411	152,550	1,614	6,287	61,909
Minnesota.....	23	11	890	5,773	643	1,321	3,812	8,786	13,305	22,108	(2)	1,532	14,889
Iowa.....	25	12	1,012	5,774	783	1,528	3,853	9,108	17,130	27,926	(2)	912	8,742
Missouri.....	41	18	1,642	10,348	1,181	2,586	6,532	22,877	23,881	44,736	(2)	1,624	19,976
Kansas.....	18	11	1,143	7,153	853	1,744	4,573	11,513	15,364	26,566	(2)	1,223	10,427
South Atlantic...	182	105	9,093	49,309	6,577	14,017	31,133	78,498	127,477	203,909	3,231	8,116	62,622
Maryland.....	27	19	1,017	6,037	725	1,491	3,729	9,345	14,538	24,190	(2)	1,081	9,055
Virginia.....	33	20	2,647	15,085	1,905	3,919	9,339	24,852	38,079	59,798	548	2,645	17,679
North Carolina...	24	13	1,361	7,829	954	2,145	4,570	11,690	23,765	35,887	1,006	1,057	7,847
South Carolina...	15	9	929	4,574	678	1,709	2,846	6,724	16,788	23,566	(2)	840	9,380
Georgia.....	26	13	929	4,555	737	1,506	3,472	6,134	7,733	14,204	(2)	615	3,739
Florida.....	45	22	1,571	7,772	1,099	2,280	4,845	12,243	18,954	30,670	524	1,471	11,037
East South													
Central.....	92	51	5,545	29,385	4,189	8,421	18,984	45,949	69,269	113,318	1,688	4,731	35,615
Tennessee.....	35	23	1,865	8,776	1,381	2,622	5,237	14,980	25,686	40,897	676	1,417	9,206
Alabama.....	34	16	2,916	16,645	2,250	4,614	11,424	23,692	32,718	54,618	730	2,872	22,989
Mississippi.....	13	7	545	2,807	396	857	1,552	5,462	8,680	14,006	(2)	271	1,448
West South													
Central.....	149	80	10,682	58,404	8,073	17,379	38,418	76,914	154,347	231,827	2,325	8,623	66,519
Arkansas.....	8	4	568	2,863	418	896	1,863	6,157	12,408	18,550	(2)	454	3,894
Louisiana.....	23	12	840	4,645	645	1,403	3,176	11,525	12,117	23,746	(2)	1,027	8,690
Oklahoma.....	18	13	2,238	13,257	1,594	3,296	7,532	13,997	36,448	50,954	(2)	2,348	20,298
Texas.....	100	51	7,036	37,639	5,416	11,784	25,847	45,235	93,374	138,577	1,220	4,794	33,637
Mountain.....	63	30	2,653	14,959	1,867	3,733	10,126	26,386	33,494	55,806	661	2,811	22,368
Arizona.....	14	6	992	4,973	663	1,284	3,296	10,549	9,177	16,766	(2)	793	6,336
Utah.....	12	6	525	3,269	377	793	2,299	6,942	8,155	14,223	(2)	563	4,192
Pacific.....	240	91	8,405	59,772	6,441	12,242	42,228	98,282	115,242	213,631	3,553	19,504	193,128
Washington.....	31	11	1,448	9,928	1,172	2,266	7,622	17,602	14,725	31,514	623	1,502	13,476
Oregon.....	25	7	902	6,404	748	1,373	4,569	13,023	17,223	28,805	(2)	881	9,023
California.....	179	70	5,841	41,919	4,420	8,397	29,779	64,588	81,228	148,166	2,644	7,121	70,629

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>See table 1, footnote 4.

<sup>2</sup>Less than \$500 thousand.

Table 3.--QUANTITY AND VALUE OF FABRICATED STRUCTURAL STEEL SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Fabricated Structural Steel Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Short tons)	Value (\$1,000)	Quantity (Short tons)	Value (\$1,000)
3441- --	Fabricated structural steel, total.....	(X)	1,590,438	(X)	1,602,126
34411 --	Fabricated structural metal for buildings:				
	Iron and steel (for sale to other companies) <sup>1</sup> .....	(X)	969,331	(X)	930,399
34411 21	Industrial.....	1,002,124	307,003	899,069	267,802
34411 25	Commercial, residential, and institutional.....	844,635	237,685	1,018,993	263,742
34411 27	Public utilities:				
	Quantity reported.....	101,079	33,261	173,776	56,128
	Quantity not reported.....	(X)	-	(X)	16,766
	Iron and steel (for installation by same company on the site of construction):				
34411 61	Industrial.....	461,228	154,984	281,612	100,089
34411 65	Commercial, residential, and institutional.....	530,562	162,544	319,885	103,653
34411 67	Public utilities:				
	Quantity reported.....	30,286	10,853	37,889	13,768
	Quantity not reported.....	(X)	1,858	(X)	3,230
34411 71	Aluminum.....	12,058	18,350	(NA)	(NA)
34411 00	Fabricated structural metal for buildings, not specified by kind.....	(X)	42,793	(X)	<sup>2</sup> 105,221
34412 --	Fabricated structural metal for bridges.....	(X)	225,484	843,511	279,624
	Iron and steel (for sale to other companies):				
34412 11	Highway bridges, trestles and viaducts.....	494,921	132,995	659,091	219,183
34412 15	Railway bridges, trestles and viaducts.....	20,167	6,045	54,225	18,978
34412 51	Iron and steel bridges, trestles and viaducts (highway and railway for installation by same company on the site of construction).....	203,687	69,344	130,195	41,463
34412 71	Aluminum.....	(NA)	3,536	(NA)	(NA)
34412 00	Fabricated structural metal for bridges, not specified by kind.....	(X)	13,564	(X)	<sup>2</sup>
34413 --	Other fabricated structural metal.....	(X)	287,025	(X)	261,992
	Iron and steel (for sale to other companies): <sup>1</sup>				
34413 11	For ships, boats, and barges:				
	Quantity reported.....	16,462	6,665	44,590	20,928
	Quantity not reported.....	(X)	3,429	(X)	347
34413 41	For transmission towers, substations, radio antenna towers, and supporting structures.....	145,337	48,260	160,936	59,948
34413 51	Other fabricated structural iron and steel, excluding pressure vessels and storage tanks, fabricated reinforcing bars, bar joists, fabricated metal buildings, steel flooring and roof decks, which are separate:				
	Quantity reported.....	294,380	103,928	297,500	103,829
	Quantity not reported.....	(X)	16,421	(X)	18,467
	Iron and steel (for installation by same company on the site of construction or for shipbuilding):				
34413 61	For ships, boats and barges.....	(NA)	<sup>3</sup> 32,500	(NA)	<sup>3</sup> 7,712
34413 71	For transmission towers, substations, radio antenna towers, and supporting structures.....	57,748	23,333	3,543	2,628
34413 81	Other fabricated structural iron and steel, excluding pressure vessels and storage tanks, fabricated reinforcing bars, bar joists, fabricated metal buildings, steel flooring and roof decks, which are separate:				
	Quantity reported.....	52,584	21,803	64,366	36,495
	Quantity not reported.....	(X)	9,996	(X)	7,638
	Aluminum:				
34413 83	For ships, boats, and barges.....	(NA)	<sup>3</sup> 513	(NA)	(NA)
34413 85	For transmission towers and other structures, excluding tanks, fabricated metal buildings, etc., which are separate.....	(NA)	1,281	(NA)	(NA)
34413 98	Structural metal, other than iron, steel, or aluminum.....	(NA)	1,644	(NA)	(NA)
34413 00	Other fabricated structural metal, not specified by kind.....	(X)	17,252	(X)	<sup>2</sup>
34410 00	Fabricated structural metal, not specified by kind.....	(X)	108,598	(X)	130,111

Note: Data for 1958 exclude Alaska and Hawaii.

- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>For some products value data only were reported by some establishments. In those instances where such values amounted to less than 10 percent of the total value of the product, an estimated quantity figure has been included in the total quantity for the product.<sup>2</sup>In 1958 "Fabricated structural metal for bridges, not specified by kind" and "Other fabricated structural metal, not specified by kind" were combined with "Fabricated structural metal for buildings, not specified by kind."<sup>3</sup>Does not include structural metal fabricated for own use by establishments building ships.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34C-2



## INDUSTRY SERIES

preliminary  
report

### Metal doors, sash, and trim

SIC Code 3442

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Metal Doors, Sash, and Trim Industry had total shipments valued at \$1,257 million, an increase of 21 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 8 percent from 1958 and 6 percent from 1962 to a total of 63 thousand employees in 1963. Value added by manufacture amounted to \$579 million in 1963, an increase of 23 percent from 1958 and 7 percent from 1962.

The Metal Doors, Sash, and Trim Industry includes establishments engaged primarily in the manufacture of ferrous and nonferrous metal and metal covered doors and sash, window and door frames and screens, molding, and trim.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE METAL DOORS, SASH, AND TRIM INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3442)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,816	626	62,810	324,567	46,630	95,758	204,012	578,838	679,720	1,256,884	21,832	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	59,333	307,093	43,354	96,138	189,116	541,312	636,512	1,172,929	23,673	4
1961 <sup>2</sup> .....	(NA)	(NA)	57,840	284,744	42,304	91,216	174,638	489,824	607,318	1,100,729	17,587	3
1960 <sup>2</sup> .....	(NA)	(NA)	61,632	299,903	44,789	94,402	183,851	506,010	612,622	1,126,762	19,298	3
1959 <sup>2</sup> .....	(NA)	(NA)	59,791	287,027	44,050	89,350	176,593	500,144	635,384	1,139,222	(20,018)	1
1958.....	1,546	560	57,897	273,219	42,433	83,849	171,756	469,050	570,782	1,037,371	18,055	(X)
1954 <sup>3</sup> .....	1,106	386	43,284	184,174	33,028	66,490	125,317	342,845	303,545	638,501	22,097	(X)
1947 <sup>3</sup> .....	364	(NA)	23,336	72,176	19,100	36,630	53,630	129,366	103,402	232,768	6,668	(X)
1939 <sup>3</sup> .....	188	(NA)	(NA)	(NA)	7,387	(NA)	10,054	27,425	17,663	45,088	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Metal Doors, Sash, and Trim Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Metal Doors, Sash, and Trim Industry amounted to \$1,257 million. Of this total, \$157 million were products primary to other industries; and \$74 million were receipts for miscellaneous activities. The industry shipments of primary products represent 87 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,084 million of metal doors, sash, and trim were shipped by all producers of these products. Of this total, \$1,026 million, or 95 percent, were shipped by plants classified in Industry 3442, Metal Doors, Sash and Trim while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 93.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE METAL DOORS, SASH, AND TRIM INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3442)													
Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	1,816	626	62,810	324,567	46,630	95,758	204,012	578,838	679,720	1,256,884	21,832	57,897	469,050
New England.....	128	40	2,922	14,283	2,114	4,364	8,509	26,603	28,572	55,349	796	2,529	20,956
New Hampshire.....	10	6	396	1,755	309	650	1,118	3,898	3,793	7,699	(1)	238	1,870
Massachusetts.....	62	17	1,205	6,043	919	1,868	3,918	10,698	13,584	24,549	(1)	1,263	10,026
Rhode Island.....	16	3	296	1,084	201	424	624	2,595	2,619	5,193	(1)	295	2,445
Connecticut.....	31	13	917	5,016	601	1,254	2,547	8,725	7,794	16,491	(1)	674	6,287
Middle Atlantic.....	387	137	14,420	76,183	10,550	22,132	47,526	130,489	137,947	267,840	3,436	14,749	113,905
New York.....	192	67	6,790	36,706	4,777	9,982	22,296	59,100	55,558	114,830	1,712	7,382	60,830
New Jersey.....	89	31	2,844	14,188	2,090	4,498	8,938	25,466	34,034	60,154	617	1,831	14,011
Pennsylvania.....	106	39	4,786	25,289	3,683	7,652	16,292	45,923	48,355	92,856	1,107	5,536	39,064
East North Central.....	397	147	17,280	94,604	12,998	26,517	61,681	163,298	205,294	369,478	7,072	18,322	154,981
Ohio.....	95	41	5,955	33,217	4,546	9,070	22,159	56,335	65,801	122,129	2,299	5,782	47,396
Indiana.....	39	14	1,973	10,739	1,465	2,873	6,718	18,713	19,897	37,983	728	1,704	12,911
Illinois.....	111	42	4,558	24,538	3,416	6,957	15,940	44,239	49,667	93,841	1,593	4,407	42,594
Michigan.....	127	44	4,114	22,553	3,098	6,546	14,747	37,731	63,212	102,272	2,323	5,699	47,695
Wisconsin.....	25	6	680	3,557	473	1,071	2,117	6,280	6,717	13,253	(1)	760	4,385
West North Central.....	150	56	4,423	22,942	3,145	6,480	14,332	39,493	41,634	80,244	1,262	3,282	27,843
Minnesota.....	32	9	713	3,952	554	1,130	2,699	6,355	6,393	12,613	(1)	456	3,425
Missouri.....	54	27	2,582	14,277	1,793	3,704	8,744	23,068	25,396	47,417	822	2,097	17,014
Kansas.....	29	11	571	2,421	386	769	1,408	6,530	5,624	12,169	(1)	283	2,685
South Atlantic.....	236	83	8,961	39,230	6,827	13,713	24,170	82,351	96,689	174,866	3,238	7,413	50,411
Maryland.....	15	6	297	1,532	197	374	679	4,370	4,214	8,425	(1)	255	2,182
Virginia.....	26	9	671	3,158	491	1,086	1,893	6,121	5,769	11,825	(1)	558	3,632
South Carolina.....	12	4	273	1,096	214	442	750	2,288	2,537	4,745	(1)	177	832
Georgia.....	33	10	2,201	10,739	1,690	3,762	6,958	24,084	27,346	50,917	1,268	1,312	10,382
Florida.....	103	45	4,826	19,972	3,715	6,990	12,112	41,070	48,669	86,363	1,241	4,925	32,402
East South Central.....	81	30	2,591	11,219	2,025	4,207	7,297	20,628	27,903	49,739	1,429	2,385	19,835
Kentucky.....	26	10	1,136	5,073	840	1,723	3,278	7,630	10,070	18,862	(1)	737	8,625
Alabama.....	19	4	373	1,907	299	643	1,195	5,203	5,364	10,698	(1)	923	7,644
West South Central.....	126	42	3,897	16,503	2,967	6,128	10,024	32,210	42,869	75,250	2,337	3,156	23,183
Arkansas.....	14	2	285	1,155	229	512	856	2,382	3,547	5,817	(1)	107	818
Louisiana.....	13	7	584	2,663	425	813	1,577	4,877	6,924	12,128	786	451	4,015
Oklahoma.....	21	7	914	4,759	680	1,523	2,977	9,922	6,966	17,072	(1)	631	6,266
Texas.....	78	26	2,114	7,926	1,633	3,280	4,614	15,029	25,432	40,233	953	1,967	12,084
Mountain.....	42	8	570	3,203	397	803	1,718	5,577	5,409	11,048	(1)	581	5,382
Pacific.....	269	83	7,746	46,400	5,607	11,414	28,755	78,189	93,403	173,070	2,142	5,480	52,554
Washington.....	36	8	976	6,562	720	1,347	4,311	10,409	9,742	20,284	(1)	875	9,242
California.....	215	69	6,353	37,677	4,548	9,388	22,791	63,928	80,727	145,988	1,760	4,283	40,811

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Revised.

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF METAL DOORS, SASH, AND TRIM SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Metal Doors, Sash and Trim Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3442- --	Metal doors, sash, frames, and molding and trim, total.....	(X)	1,084,279	(X)	951,661
34421 --	Metal doors and frames (except storm doors).....	(X)	287,662	(X)	192,389
	Industrial:				
	Overhead:				
34421 13	Aluminum.....	11,896	3,678	129,759	112,286
34421 20	Iron and steel, including stainless steel doors.....	61,432	16,781		
	All other:				
34421 14	Aluminum.....	219,830	18,179	2171,358	123,722
34421 21	Iron and steel, including stainless steel doors:				
	Quantity reported.....	228,311	19,549		
	Quantity not reported.....	(X)	8,754		
	Residential:				
	Garage:				
34421 15	Aluminum.....	192,866	9,581	1113,075	15,601
34421 22	Iron and steel, including stainless steel doors.....	126,865	8,141	175,404	10,456
34421 16	Sliding (glass, patio type), aluminum.....	550,736	32,079	1558,559	121,416
	All other, excluding shower doors and tub enclosures:				
34421 18	Aluminum.....	240,675	8,483		
34421 29	Iron and steel, including stainless steel doors.....	183,359	5,216		
	Commercial and institutional, excluding shower doors and tub enclosures:				
34421 19	Aluminum.....	153,351	13,372	1155,701	124,523
34421 32	Iron and steel, including stainless steel doors:				
	Quantity reported.....	602,835	35,799	532,604	34,930
	Quantity not reported.....	(X)	7,628	(X)	4,479
34421 39	Metal doors other than steel or aluminum.....	(NA)	5,295	(1)	(1)
	Metal door frames, including trim sold as integral part of door frame:				
34421 42	Aluminum.....	272,012	19,971	2,080,377	36,443
34421 44	Steel.....	2,797,907	44,638		
34421 45	Shower doors and tub enclosures.....	467,793	9,725	(NA)	(NA)
34421 00	Metal doors and door frames, not specified by kind.....	(X)	20,793	(X)	18,533
34422 --	Metal window sash and frames (except storm sash).....	(X)	301,919	(X)	285,311
	Steel:				
	Residential:				
34422 12	Casement.....	(NA)	4,961	(NA)	94,172
34422 19	All other.....	(NA)	8,841		
	Other, including commercial, industrial, etc.:				
34422 31	Casement.....	(NA)	3,192	170,303	14,489
34422 32	Projected.....	(NA)	3,998		
34422 39	All other.....	(NA)	14,489		
	Aluminum:				
	Residential:				
34422 21	Single and double-hung.....	4,223,867	58,718	27,782,207	171,299
34422 22	Awning.....	1,540,546	20,817		
34422 23	Jalousie.....	(NA)	19,387		
34422 24	Horizontal sliding.....	(NA)	44,951		
34422 29	All other.....	(NA)	18,850		
	Other, including commercial, industrial, etc.:				
34422 41	Single and double-hung.....	(NA)	23,651	856,292	18,828
34422 42	Awning.....	(NA)	8,519		
34422 43	Projected.....	(NA)	33,842		
34422 49	All other.....	(NA)	18,828		
34422 98	Metal window sash and frames, other than steel or aluminum.....	(NA)	508		
34422 00	Metal doors, sash, frames, molding, and trim, not specified by kind.....	(X)	18,367	(X)	19,840
34423 --	Metal molding and trim and store fronts.....	(X)	113,362	(X)	97,283
	Metal molding and trim:				
34423 21	Steel.....	(X)	30,200	(X)	78,170
34423 25	Aluminum.....	(X)	69,315		
34423 51	Metal store fronts, sold complete at factory.....	(X)	7,126	(X)	12,719
34423 00	Metal molding and trim and store fronts, not specified by type.....	(X)	6,721	(X)	6,394
34424 --	Metal combination screen and storm sash and doors.....	(X)	222,544	(X)	231,510
34424 11	Metal storm sash.....	(NA)	9,370	(X)	6,733
	Metal combination screen and storm sash:				
	Steel:				
34424 21	Quantity reported.....	161,115	2,739	9,969,302	123,352
	Quantity not reported.....	(X)	2,626		
34424 25	Aluminum:				
	Quantity reported.....	9,106,349	89,913	2,736,065	62,101
	Quantity not reported.....	(X)	16,067		
	Metal combination screen and storm doors:				
34424 41	Steel.....	153,588	3,841	3,320,379	39,324
34424 45	Aluminum.....	3,320,379	64,997		
34424 00	Metal storm sash, combination screen and storm sash and doors and parts, not specified by kind.....	(X)	32,991	(X)	39,324

See footnotes at end of table.



## 1963 CENSUS OF MANUFACTURES

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Table 3.—QUANTITY AND VALUE OF METAL DOORS, SASH, AND TRIM SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
34425 --	Metal window and door screens (except combination) and metal weatherstrip.....	(X)	48,489	(X)	64,611
34425 11	Screen doors, metal.....	445,934	4,578	6437,439	5,605
34425 21	Window screens, with metal frames including tension and roll types:				
	Steel:				
	Quantity reported.....	608,811	1,946	714,799,049	41,309
	Quantity not reported.....	(X)	1,088		
34425 25	Aluminum:				
	Quantity reported.....	10,555,442	13,818	714,799,049	41,309
	Quantity not reported.....	(X)	7,086		
34425 51	Weatherstrip, metal:				
	Quantity reported.....	8183,545	13,368	8263,042	12,868
	Quantity not reported.....	(X)	3,731	(X)	4,829
34425 00	Metal window and door screens, not specified by kind.....	(X)	2,874	(X)	-
34420 00	Metal doors, sash, frames, molding, and trim, not specified by kind.....	(X)	110,303	(X)	80,557

- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>In 1958, metal doors constructed of metals other than iron and steel or aluminum were included with those of aluminum construction when such were collected separately and with those of iron and steel and aluminum construction when such doors were treated as a single product.<sup>2</sup>This quantity was valued at \$17,915 thousand. The remaining \$5,807 thousand was reported without quantity.<sup>3</sup>This quantity was valued at \$17,609 thousand. The remaining \$6,914 thousand was reported without quantity.<sup>4</sup>This quantity was valued at \$148,374 thousand. The remaining \$22,925 thousand was reported without quantity.<sup>5</sup>This quantity was valued at \$111,156 thousand. The remaining \$12,196 thousand was reported without quantity.<sup>6</sup>This quantity was valued at \$4,838 thousand. The remaining \$767 thousand was reported without quantity.<sup>7</sup>This quantity was valued at \$33,833 thousand. The remaining \$7,476 thousand was reported without quantity.<sup>8</sup>Data represent thousands of linear feet.

# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume 1, Summary Statistics

Volume 11, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume 111, Area Statistics

### Mineral Industries

Volume 1, General Summary and Industry Statistics

Volume 11, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.





U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34C-3



## INDUSTRY SERIES

**preliminary  
report**

### Boiler shop products SIC Code 3443

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Boiler Shop Products Industry had total shipments valued at \$1,570 million, a decrease of 6 percent from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 20 percent from 1958 and 1 percent from 1962 to a total of 72 thousand employees in 1963. Value added by manufacture amounted to \$772 million in 1963, an increase of 2 percent from 1958 and 15 percent from 1962.

The Boiler Shop Products Industry includes establishments engaged primarily in the manufacture of power and marine boilers, pressure and nonpressure tanks, processing and storage vessels, heat exchangers, weldments and similar products, by the process of cutting, forming and joining ferrous and nonferrous plates, shapes, bars, sheet, pipe mill products and tubing to custom or standard design for factory or field assembly.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.—GENERAL STATISTICS FOR THE BOILER SHOP PRODUCTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3443)

Year	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,382	599	72,314	450,123	52,911	107,139	296,953	771,980	829,181	1,570,449	32,256	(X)
1962 <sup>3</sup> .....	(NA)	(NA)	72,931	449,765	51,403	104,082	286,085	672,736	800,968	1,499,597	31,485	3
1961 <sup>2</sup> .....	(NA)	(NA)	76,593	456,205	53,880	107,273	289,800	669,175	808,505	1,477,433	21,195	2
1960 <sup>2</sup> .....	(NA)	(NA)	79,857	468,749	56,417	113,232	299,894	677,595	843,510	1,521,691	29,406	2
1959 <sup>2</sup> .....	(NA)	(NA)	83,219	473,164	58,211	116,335	298,644	716,826	836,491	1,590,975	40,254	1
1958 <sup>3,4</sup> ....	1,252	557	90,551	497,146	64,658	127,164	323,238	754,972	878,425	1,670,007	45,043	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included. Number of "All Employees" in these two states was between 100 and 249.

<sup>4</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that the industry is not comparable.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Boiler Shop Products Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Boiler Shop Products Industry amounted to \$1,570 million. Of this total, \$150 million were products primary to other industries; and \$148 million were receipts for miscellaneous activities. The industry shipments of primary products represent 89 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 89 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,510 million of boiler shop products were shipped by all producers of these products. Of this total, \$1,272 million, or 84 percent, were shipped by plants classified in Industry 3443, Boiler Shop Products while the remainder was shipped by plants classified in other industries. In 1958, the comparable ratio was 83 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary



## 1963 CENSUS OF MANUFACTURES

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reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE BOILER SHOP PRODUCTS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3443)

Geographic areas	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,382	599	72,314	450,123	52,911	107,139	296,953	771,980	829,181	1,570,449	32,256	190,551	1,754,972
New England.....	92	31	2,411	15,616	1,760	3,770	9,953	27,912	23,448	51,456	1,405	2,699	22,962
Massachusetts...	52	24	1,853	12,292	1,338	2,877	7,658	21,994	18,782	41,027	1,059	1,608	12,663
Connecticut.....	25	6	437	2,774	327	700	1,875	5,008	3,881	8,714	(2)	848	8,619
Middle Atlantic...	296	116	16,893	107,750	12,010	24,035	70,955	168,110	185,055	348,364	5,172	24,750	220,431
New York.....	89	26	3,831	25,596	2,631	5,502	16,340	43,699	36,698	78,920	1,302	6,530	59,449
New Jersey.....	74	24	2,297	14,520	1,702	3,532	10,097	23,230	20,477	38,815	645	2,859	24,770
Pennsylvania.....	133	66	10,765	67,634	7,677	15,001	44,518	101,181	127,880	230,629	3,225	15,361	136,212
East North Central	353	155	20,632	132,534	14,061	28,879	82,381	213,083	212,761	415,517	7,640	21,972	190,660
Ohio.....	93	41	8,640	56,901	5,183	10,711	30,774	97,035	85,041	169,465	3,498	10,544	92,029
Indiana.....	38	15	2,309	14,736	1,603	3,203	9,552	20,663	32,561	52,543	870	3,233	34,650
Illinois.....	84	42	3,557	22,057	2,818	5,798	15,879	36,108	38,411	74,568	1,675	3,474	27,895
Michigan.....	83	28	1,734	11,519	1,319	2,756	7,829	18,758	20,599	40,347	(2)	1,526	12,542
Wisconsin.....	55	29	4,392	27,321	3,138	6,411	18,347	40,519	36,149	78,594	1,184	3,195	23,544
West North Central	87	34	4,172	25,346	3,180	6,471	17,438	40,177	51,519	91,627	2,169	4,704	36,446
Minnesota.....	14	7	620	3,729	481	956	2,625	4,121	8,230	12,866	(2)	610	5,479
Iowa.....	18	6	893	5,051	649	1,368	3,292	9,701	11,320	19,319	(2)	307	2,442
Missouri.....	26	11	2,049	12,916	1,575	3,114	9,062	20,284	21,780	43,182	914	3,039	22,716
Kansas.....	16	6	288	1,606	222	482	1,178	2,402	2,966	5,310	(2)	609	4,450
South Atlantic....	123	55	5,642	30,146	4,628	9,292	22,283	77,527	64,954	134,295	3,487	5,081	32,704
Delaware.....	6	4	313	2,163	258	564	1,736	6,999	6,999	13,457	(2)	492	5,018
Maryland.....	20	7	571	3,247	443	903	2,209	4,798	6,092	10,594	(2)	517	3,616
Virginia.....	12	8	1,170	6,218	863	1,563	3,697	25,833	13,033	35,021	(D)	1,446	6,774
North Carolina...	23	10	1,201	6,022	1,078	2,249	5,012	10,991	13,304	22,383	(2)	996	6,609
Georgia.....	19	12	1,517	7,727	1,304	2,646	6,201	19,822	16,229	34,601	1,066	1,199	7,270
Florida.....	29	10	595	3,163	458	934	2,200	5,828	7,295	13,002	(2)	302	2,555
East South Central	54	31	4,039	22,141	3,290	6,870	17,428	48,293	47,266	93,449	2,858	8,750	64,916
Kentucky.....	15	8	545	2,986	398	802	1,988	4,503	5,511	10,096	(2)	746	6,035
Alabama.....	18	12	1,722	9,914	1,309	2,711	7,665	21,375	24,623	46,108	555	1,215	10,819
West South Central	150	84	9,503	53,432	7,392	15,803	37,695	104,780	124,528	224,178	3,730	9,127	70,112
Oklahoma.....	24	15	2,281	13,047	1,813	3,897	9,462	29,043	33,833	62,623	(2)	2,092	20,707
Texas.....	103	56	5,251	28,844	4,092	8,674	20,376	56,442	66,716	119,140	2,433	5,368	38,999
Mountain.....	36	20	1,948	12,392	1,462	2,946	9,089	18,839	28,094	47,115	549	2,348	16,334
Colorado.....	12	6	655	4,474	446	865	2,944	4,189	8,796	12,872	(2)	701	4,882
Utah.....	11	9	1,002	6,146	799	1,656	4,983	10,990	14,026	25,500	(2)	1,166	7,418
Pacific.....	191	73	7,074	50,766	5,128	9,073	29,731	73,259	91,556	164,448	5,246	11,120	110,407
Oregon.....	15	7	673	4,629	510	1,009	3,087	8,221	8,987	17,229	(2)	454	3,066
California.....	150	60	6,101	44,071	4,381	7,609	25,068	61,580	79,664	140,889	4,676	10,090	92,530

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>See table 1, footnote 3.

<sup>2</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF BOILER SHOP PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Boiler Shop Products Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3443- --	Fabricated plate work (boiler shops), total.....	.....	(X)	1,510,415	(X)	1,613,999
34431 --	Heat exchangers and steam condensers.....	.....	(X)	158,216	(X)	187,243
34431 11	Heat exchangers, closed types, industrial: Bare tube.....	1,000 sq. ft. of heat transfer surface..... ..do.....	(NA) (NA)	90,933 37,948	14,635 (NA)	103,440 32,769
34431 15	Fin tube.....	..do.....	(NA)	23,886	(NA)	48,509
34431 51	Steam condensers.....	..do.....	(X)	5,449	(X)	2,525
34431 00	Heat exchangers and steam condensers, not specified by kind.....	.....	(X)	368,083	(X)	<sup>2</sup> 343,022
34432 --	Fabricated steel plate <sup>1</sup> .....	Short tons.....	(NA)	7,382	(NA)	5,257
34432 31	Stacks (smoke or other).....	..do.....	(NA)	61,343	(NA)	40,878
34432 51	Weldments.....	.....				
34432 11	Fabricated steel plate (factory assembled or joined and prepared for field erection): For large diameter pipe (over 36" diameter for pipe lines, penstocks, tunnel linings, etc.).....	..do.....	209,730	70,578	127,466	41,164
34432 98	Fabricated steel plate for other purposes: Quantity reported..... Quantity not reported.....	..do..... ..... .....	435,878 (X) 71,289	137,388 282,900 (X)	150,224 75,577	
34432 00	Fabricated steel plate, not specified by kind.....	.....	(X)	20,103	(X)	<sup>2</sup> 29,922
34433 --	Steel power boilers, parts, and attachments (over 15 P.S.I. steam working pressure).....	.....	(X)	287,724	(X)	409,549
34433 11	Stationary power boilers: <sup>3</sup> Water tube: 100,000 lbs./hr. and under: Over 15 to 449 P.S.I. steam working pressure.....	No. of units.... ..... .....	1,757 62	32,764 5,929		
34433 13	450 P.S.I. steam working pressure and over.....	..do.....	61	8,801	<sup>4</sup> 2,152	<sup>4</sup> 276,324
34433 21	100,000 lbs./hr. to 250,000 lbs./hr.....	..do.....	78	115,398		
34433 23	Over 15 to 449 P.S.I. steam working pressure.....	..do.....				
34433 31	450 P.S.I. steam working pressure and over.....	..do.....				
34433 33	Fire tube: Horizontal return tubular.....	No. of units.... .....	1,744 4,457	4,547 25,573	<sup>4</sup> 7,247	<sup>4</sup> 20,185
34433 36	Scotch type.....	..do.....	2,774	2,043		
34433 37	Other types.....	..do.....				
34433 38	Marine boilers.....	..do.....	(X)	91,834	( <sup>4</sup> ) (X)	( <sup>4</sup> ) 109,063
34433 41	Parts and attachments for steel power boilers (sold separately).....	.....	(X)	835	(X)	3,977
34433 52	Steel power boilers, parts, and attachments (over 15 P.S.I. steam working pressure), not specified by kind.....	.....				
34434 --	Gas cylinders <sup>1</sup> .....	Number.....	354,045	11,936	<sup>1</sup> 244,330	<sup>2</sup> 41,274 5,560
34434 11	For liquefied petroleum gas.....	..do.....	1,125,342	36,487	<sup>1</sup> 1,034,549	<sup>2</sup> 23,836
34434 19	Other gas cylinders.....	..do.....	(X)	2,266	(X)	<sup>2</sup> 11,878
34434 00	Gas cylinders, not specified by kind.....	.....				
34435 --	Metal tanks, complete at factory (standard line and pressure) <sup>1</sup> .....	.....	(X)	104,420	(X)	<sup>5</sup> 132,466
34435 12	Truck tanks for delivery of liquefied petroleum gas (butane, propane, etc.).....	No. of units....	(NA)	8,198	(NA)	3,891
34435 22	All other liquefied petroleum gas tanks (under 3,000 gallon capacity): Carbon steel.....	..do.....	224,911	34,181	<sup>6</sup> 170,550	35,887
34435 24	Alloy and stainless steel.....	..do.....	(NA)	3,448		
34435 26	Aluminum.....	..do.....				
34435 35	Air receivers: Quantity reported..... Quantity not reported.....	..do..... ..... .....	70,523 (X)	4,786 2,464	84,320 (X)	5,641 737
34435 38	Other pressure tanks, including anhydrous ammonia under 3,000 gallon capacity, but excluding range boilers, expansion tanks, hot-water storage tanks and tanks for water heaters sold separately.....	.....	(X)	38,151	(X)	14,391
34435 00	Metal tanks, complete at factory (standard line and pressure), not specified by kind.....	.....	(X)	13,192	(X)	<sup>5</sup> 71,919

See footnotes at end of table.



Table 3.—QUANTITY AND VALUE OF BOILER SHOP PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
34437 --	Metal tanks, complete at factory (standard line, nonpressure) <sup>1</sup> .....	.....	(X)	142,437	(X)	<sup>5</sup> 136,540
	Nonpressure storage tanks:					
	Bulk storage, including above ground, underground and inside storage tanks:					
	Carbon steel:					
34437 11	6,000 gallon or less capacity.....	No. of units....	211,533	39,648	210,673	44,398
34437 13	Over 6,000 gallon capacity.....	..do.....	26,183	27,118	21,917	20,880
	Alloy and stainless steel, nickel, etc., excluding aluminum:					
34437 14	Dairy processing plant storage tanks for milk (stainless steel) ..do.....	.....	6,301	12,609	4,207	7,607
34437 16	Other.....	.....	(NA)	9,150		
34437 18	Aluminum.....	.....	1,099	2,127		
34437 21	Basement oil storage tanks.....	.....	203,309	5,927	277,349	6,885
34437 25	Oilfield boltex.....	.....	1,390	2,828	5,739	10,553
34437 27	Farm storage tanks with or without supports.....	.....	(NA)	4,486	(NA)	11,191
	Truck tanks (for delivery of fluids, excluding trailer tanks):					
	For liquid fuels, excluding liquefied petroleum:					
34437 43	Gas tanks.....	.....	3,102	8,494	3,353	9,281
34437 45	For other fluids.....	.....	(NA)	4,504	(NA)	7,738
34437 71	Septic tanks, metal:					
	Quantity reported.....	.....	66,392	3,419	63,680	2,940
	Quantity not reported.....	.....	(X)	1,712	(X)	753
34437 98	Other nonpressure tanks, including tanks for trailers.....	No. of units....	(NA)	14,222	(NA)	14,314
34437 00	Metal tanks, complete at factory (standard line, nonpressure) not specified by kind.....	.....	(X)	6,193	(X)	( <sup>5</sup> )
34438 --	Metal tanks and vessels, custom fabricated at the factory <sup>1</sup> .....	.....	(X)	189,688	(X)	149,493
	Pressure vessels and tanks (over 24" outside diameter and not less than 5 cu. ft. capacity) including process vessels, tanks and kettles for refineries, chemical plants, paper mills and other processing industries (except tanks for liquefied petroleum gas):					
	Carbon steel:					
34438 03	3/4" wall thickness and under.....	Short tons.....	122,334	58,246	7130,910	91,821
34438 05	Over 3/4" wall thickness.....	.....	(NA)	28,593		
34438 06	Alloy and stainless steel, nickel, etc., excluding aluminum.....	.....	19,443	31,002	816,077	27,518
34438 08	Aluminum.....	.....	2,518	5,909		
34438 15	Liquefied petroleum gas tanks, 3,000 gallon capacity and over.....	.....	33,742	21,284	16,288	9,023
34438 18	All other tanks, and vessels, custom fabricated at the factory, including anhydrous ammonia tanks 3,000 gallon capacity and over.....	.....	(NA)	43,104	(NA)	21,131
34438 00	Metal tanks and vessels custom fabricated at the factory, not specified by kind.....	.....	(X)	1,550	(X)	-
34439 --	Metal tanks and vessels, custom fabricated and field erected <sup>1</sup> .....	.....	(X)	122,733	(X)	144,335
	Bulk storage tanks:					
	Water, including elevated tanks:					
34439 21	Steel.....	Short tons.....	(NA)	42,143	(NA)	42,610
34439 23	Aluminum.....	.....	(NA)	216		
	Petroleum and petroleum products:					
24439 25	Steel.....	.....	166,136	49,728	242,566	61,093
34439 27	Aluminum.....	.....	722	904		
34439 33	Other.....	.....	(NA)	9,282	(NA)	22,495
	Pressure vessels and tanks, including process vessels, tanks, and kettles for refineries, chemical plants, paper mills, and other processing industries:					
	Carbon steel, including gas holders:					
34439 53	3/4" wall thickness and under.....	.....	24,075	11,706	932,460	14,700
34439 55	Over 3/4" wall thickness.....	.....	14,795	4,568		
34439 59	Alloy and stainless steel, nickel, aluminum, etc.....	.....	641	1,735	1,992	3,437
34439 00	Metal tanks and vessels, custom fabricated and field erected, not specified by kind.....	.....	(X)	2,451	(X)	-
34430 00	Boiler shop products, not specified by kind.....	.....	(X)	86,425	(X)	70,077

Note: Data for 1958 exclude Alaska and Hawaii.

- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>The product class structure for this industry has been revised effective with 1963. Accordingly, totals for selected product classes differ from previously published figures.<sup>2</sup>1958 data for products 3443200 and 3443400 are not, separately, comparable with data for 1963. The total for these two products is comparable.<sup>3</sup>Data differ from related data published in Current Industrial Reports Series M340, "Steel Power Boilers" because of the following factors:

(a) In survey M340 the data represent new orders whereas Census of Manufactures data represent shipments.

(b) In survey M340 the data relate to boilers of 100 square feet of heating surface and over whereas the Census of Manufactures includes those of under 100 square feet of heating surface.

<sup>4</sup>In 1958, marine boilers were not reported separately from stationary power boilers.<sup>5</sup>In 1958, product code 3443700 is combined with product code 3443500.<sup>6</sup>This quantity was valued at \$30,529 thousand. The remaining \$5,358 thousand represents value for which no quantity was reported.<sup>7</sup>This quantity was valued at \$79,206 thousand. The remaining \$12,615 thousand represents value for which no quantity was reported.<sup>8</sup>This quantity was valued at \$23,843 thousand. The remaining \$3,675 thousand represents value for which no quantity was reported.<sup>9</sup>This quantity was valued at \$12,790 thousand. The remaining \$1,910 thousand represents value for which no quantity was reported.





# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34C-4



INDUSTRY SERIES

preliminary  
report

## Sheet metal work

SIC Code 3444

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Sheet Metal Work Industry had total shipments valued at \$1,292 million, an increase of 20 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 5 percent from 1958 but a decrease of 5 percent from 1962 to a total of 61 thousand employees in 1963. Value added by manufacture amounted to \$618 million in 1963, an increase of 20 percent from 1958 with virtually no change from 1962.

The Sheet Metal Work Industry includes establishments engaged primarily in the manufacture of sheet metal work for buildings (not including fabrication work done by construction contractors at the place of construction), and manufacturing sheet metal stovepipes, light tanks, etc.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE SHEET METAL WORK INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3444)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	3,247	752	61,443	370,983	47,733	96,289	262,233	617,504	673,743	1,291,947	25,935	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	64,401	382,732	49,159	103,726	263,083	615,155	669,121	1,280,477	31,736	5
1961 <sup>2</sup> .....	(NA)	(NA)	62,606	354,782	47,481	99,472	239,980	581,118	629,034	1,203,788	24,088	4
1960 <sup>2</sup> .....	(NA)	(NA)	61,197	342,828	46,243	97,572	231,648	569,439	615,445	1,179,765	25,675	3
1959 <sup>2</sup> .....	(NA)	(NA)	61,613	334,282	47,128	97,161	228,622	584,115	616,823	1,195,033	22,496	1
1958 <sup>2</sup> .....	3,158	698	58,558	307,905	44,395	86,142	210,892	513,991	567,632	1,073,758	22,339	(X)
1957 <sup>3</sup> .....	2,421	550	50,190	227,272	38,597	77,639	155,971	393,606	416,157	812,238	18,770	(X)
1947 <sup>3</sup> .....	1,706	(NA)	42,375	131,739	34,897	(NA)	99,460	224,960	195,565	420,525	(NA)	(X)
1939 <sup>3</sup> .....	1,262	(NA)	24,740	36,727	18,749	(NA)	23,079	66,360	70,981	137,341	(NA)	(X)

(NA) Not available. (X) Not applicable. <sup>2</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Sheet Metal Work Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Sheet Metal Work Industry amounted to \$1,292 million. Of this total, \$132 million were products primary to other industries; and \$138 million were receipts for miscellaneous activities. The industry shipments of primary products represented 89 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 88 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,294 million of sheet metal products were shipped by all producers of these products. Of this total, \$1,022 million, or 79 percent, were shipped by plants classified in Industry 3444, Sheet Metal Work, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 82.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965



through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE SHEET METAL WORK INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3444)

Geographic area	1963								1958				
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States total.....	3,247	752	61,443	370,983	47,733	96,289	262,233	617,504	673,743	1,291,947	25,935	58,800	516,136
New England.....	271	61	4,129	25,094	3,271	6,688	18,088	37,774	28,371	66,018	1,359	3,600	28,378
Massachusetts.....	165	42	2,925	17,979	2,319	4,766	12,713	26,281	19,820	46,027	1,013	2,539	20,655
Connecticut.....	60	13	772	4,779	613	1,246	3,676	7,679	6,163	13,828	(1)	703	4,971
Middle Atlantic..	654	183	14,344	89,179	11,209	22,792	65,144	148,053	122,345	270,594	4,656	13,672	114,569
New York.....	290	78	6,319	40,465	5,162	10,425	31,011	64,096	44,261	108,579	1,463	5,490	45,144
New Jersey.....	185	49	3,186	20,943	2,527	5,209	15,338	33,825	27,344	61,842	1,025	2,773	22,358
Pennsylvania....	179	56	4,839	27,771	3,520	7,158	18,795	50,132	50,740	100,173	2,168	5,409	47,067
East North													
Central.....	674	192	17,174	106,343	13,141	26,752	72,216	171,520	229,986	400,536	8,933	15,530	149,472
Ohio.....	203	61	5,309	32,809	3,943	7,995	21,704	59,483	74,044	133,803	2,315	5,658	57,574
Indiana.....	71	27	1,631	9,304	1,264	2,530	6,453	16,413	19,200	35,080	633	1,150	10,290
Illinois.....	194	51	3,582	21,708	2,805	5,787	15,687	34,238	36,915	71,300	1,262	3,269	27,453
Michigan.....	135	33	3,582	22,352	2,891	5,841	15,984	32,385	46,402	78,593	2,576	2,827	28,989
Wisconsin.....	71	20	3,070	20,170	2,238	4,599	12,388	29,001	53,425	81,760	633	2,626	25,166
West North													
Central.....	205	59	5,798	34,372	4,508	9,016	23,909	61,994	68,457	131,108	2,550	7,806	64,728
Minnesota.....	49	17	878	5,088	692	1,419	3,601	7,578	9,426	16,713	843	1,081	9,220
Iowa.....	32	8	1,087	6,796	873	1,820	5,017	10,676	9,829	20,992	(1)	857	8,806
Missouri.....	66	17	2,402	15,291	1,851	3,683	10,918	26,895	29,122	56,731	694	4,178	29,593
Nebraska.....	21	9	784	4,020	613	1,066	2,195	9,600	10,996	20,563	(1)	993	11,479
Kansas.....	27	6	367	1,997	293	596	1,470	5,132	4,231	8,968	(1)	465	3,179
South Atlantic...	370	73	6,047	30,399	4,677	9,435	21,833	53,689	72,534	125,549	3,555	5,498	41,070
Maryland.....	46	14	1,026	6,000	791	1,742	4,205	9,411	11,512	20,393	(1)	915	8,127
Virginia.....	32	14	738	3,522	583	1,219	2,522	6,416	5,736	12,521	(1)	532	3,823
West Virginia..	15	4	646	3,660	521	969	2,720	8,597	13,236	21,808	(1)	454	3,062
North Carolina..	61	9	874	3,883	715	1,430	2,796	6,531	16,472	22,411	1,934	669	5,135
Georgia.....	61	14	928	4,519	750	1,444	3,245	7,825	10,563	18,283	(1)	1,024	7,450
Florida.....	121	15	1,503	6,936	1,043	2,111	4,771	12,495	13,586	26,296	(1)	1,586	11,577
East South													
Central.....	168	25	1,639	7,807	1,288	2,628	5,557	15,189	17,975	32,934	(1)	1,543	11,963
Tennessee.....	57	11	670	3,153	531	1,113	2,196	6,322	8,136	14,321	(1)	423	4,038
Alabama.....	46	7	446	1,837	361	706	1,380	3,981	4,423	8,331	(1)	376	2,775
West South													
Central.....	304	36	3,238	16,350	2,489	4,976	11,729	24,968	28,996	54,707	966	2,974	20,640
Louisiana.....	59	6	553	3,021	436	858	2,407	4,840	4,866	9,498	(1)	356	2,564
Texas.....	173	20	2,027	10,522	1,566	3,136	7,300	15,307	18,221	34,322	657	2,074	14,399
Mountain.....	94	12	999	6,080	826	1,695	4,817	11,599	11,748	23,471	(1)	1,126	10,206
Colorado.....	24	2	289	1,902	239	483	1,525	2,965	2,441	5,355	(1)	285	2,569
Pacific.....	507	111	8,075	55,359	6,324	12,307	38,940	92,718	93,331	187,030	3,081	7,051	75,110
Washington.....	49	13	842	6,164	675	1,298	4,688	9,836	10,135	20,017	(1)	777	7,580
Oregon.....	41	8	683	4,406	550	1,059	3,191	6,888	9,758	16,898	(1)	860	7,945
California.....	411	89	6,495	44,388	5,049	9,837	30,716	75,436	72,955	149,139	2,581	5,414	59,585

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF SHEET METAL WORK SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Sheet Metal Work Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Short tons)	Value (\$1,000)	Quantity (Short tons)	Value (\$1,000)
3444- --	Sheet metal work, total.....	(X)	1,293,802	(X)	1,008,471
34441 --	Sheet-metal roofing and siding and roof drainage equipment.....	(X)	286,946	(X)	185,775
	Metal roofing:				
34441 11	Steel, all types.....	572,631	132,276	292,138	69,081
34441 13	Aluminum, all types.....	17,575	16,225	(NA)	18,587
34441 15	Other metals, all types.....	(X)	12,809	(X)	1,462
	Metal siding:				
34441 16	Steel.....	20,337	6,401	25,946	7,798
	Aluminum:				
34441 21	Residential.....	89,415	89,454	(NA)	51,110
34441 22	Other (commercial, industrial, farm buildings, etc.).....	(NA)	5,065		
34441 19	Other metals.....	(X)	(1)	(X)	1,394
	Roof drainage equipment:				
34441 23	Steel:				
	Quantity reported.....	63,464	19,940	68,101	21,847
	Quantity not reported.....	(X)	6,296	(X)	4,855
34441 27	Copper:				
	Quantity reported.....	1,574	2,185	2,187	3,295
	Quantity not reported.....	(X)	214	(X)	680
34441 29	Aluminum.....	(NA)	6,081	(NA)	5,666
34442 --	Culverts, flumes, irrigation pipes, etc.....	(X)	128,963	(X)	126,878
34442 13	Steel.....	(X)	117,633	(X)	126,878
34442 15	Aluminum.....	(X)	4,630		
34442 19	Other metal.....	(X)	6,680		
34443 --	Other sheet-metal work.....	(X)	643,307	(X)	485,913
34443 11	Cornices, skylights, ceilings, domes, copings and gravel stops.....	(X)	14,844	(X)	4,028
34443 15	Roof ventilators.....	(X)	13,831	(X)	20,420
	Bins and vats:				
34443 62	Grain.....	(X)	24,015	(X)	24,786
34443 64	Other.....	(X)	13,398	(X)	5,930
	Other sheet metal products:				
34443 32	Stove pipe and furnace smoke pipe, elbows, ducts and fitting:				
34443 42	Aluminum.....	(X)	26,646	(X)	65,726
	Steel.....	(X)	66,263		
	Air conditioning ducts, including dust collecting and ventilating ducts:				
34443 34	Aluminum.....	(X)	24,723	(X)	80,534
34443 44	Steel.....	(X)	66,456		
	Restaurant, hotel, and kitchen sheet-metal equipment such as table tops, drainboard tops etc.:				
34443 36	Aluminum.....	(X)	19,625	(X)	43,754
34443 46	Steel.....	(X)	25,721		
	Metalawning and canopies, carports and patio roofs, including assembled or unassembled prefabricated types:				
34443 37	Aluminum.....	(X)	36,488	(X)	38,233
34443 47	Steel.....	(X)	5,989		
	Other sheet-metal work (except cornices, skylights, ceilings, domes, copings, gravel stops, roof ventilators, bins and vats):				
34443 39	Aluminum.....	(X)	52,908	(X)	202,502
34443 49	Steel.....	(X)	171,403		
34443 98	Other sheet metal work of metals other than steel or aluminum.....	(X)	80,997		
34440 00	Sheet-metal work, not specified by kind.....	(X)	234,586	(X)	209,905

(NA) Not available. (X) Not applicable.

\*Metal siding of other than steel and aluminum, product code 3444119 is included with metal roofing of other than steel and aluminum, 3444115.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-34C-5



## INDUSTRY SERIES

### Miscellaneous metal work, n.e.c.

SIC Codes 3446 and 3449

**preliminary  
report**

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

Manufacturers in the Miscellaneous Metal Work, N.E.C. (including Architectural Metal Work) Industries had receipts during 1963 of \$963 million, according to preliminary results obtained from the 1963 census. Average employment in these industries was 39 thousand employees, while the value added by manufacture amounted to \$429 million.

During 1963, manufacturers in the Architectural Metal Work (SIC 3446) Industry had total shipments valued at \$264 million, a decrease of 18 percent

from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 29 percent from 1958 to a total of 15 thousand employees in 1963. Value added by manufacture amounted to \$145 million in 1963, a decrease of 20 percent from 1958.

The Architectural Metal Work (SIC 3446) Industry includes establishments engaged primarily in the manufacture of architectural and ornamental metal work of ferrous and nonferrous metals, such as stairs and staircases, open steel flooring (grating), fire escapes, grilles, railings, and fences and gates except wire.

During 1963, manufacturers in the Miscellaneous Metal Work (SIC 3449) Industry shipped products valued at \$699 million, an increase of 18 percent

Table 1.—GENERAL STATISTICS FOR THE ARCHITECTURAL METAL WORK AND MISCELLANEOUS METAL WORK INDUSTRIES IN THE UNITED STATES FOR SELECTED YEARS

(SIC codes 3446 and 3449)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)
Architectural metal work (SIC 3446)											
1963.....	1,328	218	14,785	85,684	11,527	23,009	58,118	145,117	117,572	264,405	5,968
1958 <sup>2</sup> .....	1,343	(NA)	20,964	111,006	16,039	31,605	74,234	180,942	145,141	322,440	6,537
1954 <sup>2</sup> .....	1,113	(NA)	21,009	89,235	16,115	32,165	60,687	149,946	112,837	262,784	(NA)
Miscellaneous metal work (SIC 3449)											
1963.....	3,695	242	24,555	143,326	16,607	33,803	87,097	283,946	415,174	698,917	11,335
1958 <sup>2</sup> .....	248	(NA)	21,158	113,798	14,817	30,385	68,373	220,134	371,413	594,711	9,366
1954 <sup>2</sup> .....	272	(NA)	15,286	67,451	10,906	22,341	41,255	124,606	171,234	295,841	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>Industry 3446 was not a separate industry in the 1958 Census of Manufactures but was part of SIC 3449, Miscellaneous Metal Work, N.E.C. However, data were published in 1958 for plants classified in SIC 3449 specializing in the production of ornamental and structural metal work. This is the source of the separate data for Industries 3446 and 3449. In like manner, data were published in 1954 for plants classified in SIC 3441 (1945 edition) specializing in those products now classified in Industries 3446 and 3449.

<sup>3</sup>For 1963, a sizeable number of small establishments (under 20 employees) may have been misclassified in Industry 3449, Miscellaneous Metal Work, because of insufficient product information. Although this has a significant effect on the number of establishments for this industry it has a very small effect on any of the other statistics, i.e., number of employees, salaries and wages, value added, etc. It is estimated that the effect on these principal statistics is less than 3 percent.

May 1965

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 16 percent from 1958 to a total of 25 thousand employees in 1963. Value added by manufacture amounted to \$284 million in 1963, an increase of 29 percent from 1958.

The Miscellaneous Metal Work (SIC 3449) Industry includes establishments engaged primarily in the manufacture of prefabricated and portable metal buildings and parts, and miscellaneous metal work.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Industry 3449 has been amended to exclude manufacturers of architectural metal work. Such manufacturers are classified in SIC 3446. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Industry 3446 and Industry 3449 consist not only of products described above as primary to each industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc.

The total value of shipments and other receipts of establishments classified in the Architectural Metal Work (SIC 3446) Industry amounted to \$264 million. Of this total, \$34 million were products primary to other industries; and \$15 million were receipts for miscellaneous activities. The industry shipments of primary products represent 86 percent of the total manufactured product shipments, primary and secondary.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3 indicates that \$305 million of architectural metal work were shipped by all producers of these products. Of this total, \$214 million, or 70 percent, were shipped by plants classified in Industry 3446, Architectural Metal Work, while the remainder was shipped by plants classified in other industries.

The total value of shipments and other receipts of establishments classified in the Miscellaneous Metal Work (SIC 3449) Industry amounted to \$699 million. Of this total, \$71 million were products primary to other industries; and \$94 million were receipts for miscellaneous activities. The industry shipments of primary products represent 88 percent of the total manufactured product shipments, primary and secondary.



The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$794 million of miscellaneous metal work were shipped by all producers of these products. Of this total, \$534 million, or 67 percent, were shipped by plants classified in Industry 3449, Miscellaneous Metal Work, while the remainder was shipped by plants classified in other industries.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1, 2A and 2B are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1, 2A and 2B) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

## 1963 CENSUS OF MANUFACTURES

Table 2A.—GENERAL STATISTICS FOR THE MISCELLANEOUS METAL WORK, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963

(SIC codes 3446 and 3449)

Geographic area	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
Architectural metal work, total..	1,328	218	14,785	85,684	11,527	23,009	58,118	145,117	117,572	264,405	5,968
New England.....	69	10	761	5,015	575	1,150	3,098	8,949	5,176	14,039	(1)
Middle Atlantic.....	399	60	4,398	26,322	3,430	6,860	18,762	44,478	36,320	80,859	1,597
New York.....	172	35	1,820	11,154	1,420	2,840	7,651	20,799	13,807	34,278	890
New Jersey.....	93	8	511	3,178	398	796	2,011	5,915	3,637	9,540	(1)
Pennsylvania.....	134	17	2,067	11,990	1,612	3,224	9,100	17,764	18,876	37,041	605
East North Central.....	238	53	2,968	17,888	2,313	4,626	11,307	32,351	23,911	56,816	1,026
Ohio.....	75	20	1,247	6,898	973	1,946	4,616	13,318	8,068	21,105	(1)
Indiana.....	25	5	261	1,493	203	406	959	3,168	3,509	6,642	(1)
Illinois.....	75	14	687	4,357	535	1,070	2,721	6,561	5,533	13,256	(1)
Michigan.....	41	9	490	3,358	382	764	2,124	6,063	4,693	10,532	(1)
Wisconsin.....	22	5	283	1,782	220	440	887	3,241	2,108	5,281	(1)
West North Central.....	77	13	700	3,898	545	1,091	2,689	6,743	5,062	11,757	(1)
South Atlantic.....	179	22	1,815	8,629	1,386	2,747	5,418	14,556	13,722	28,644	542
Maryland.....	32	4	451	2,289	323	619	1,365	4,409	4,090	8,503	(1)
Virginia.....	22	5	512	2,463	399	798	1,550	3,364	3,148	6,629	(1)
Florida.....	50	5	370	1,720	288	576	1,021	2,588	2,737	5,532	(1)
East South Central.....	71	8	766	3,386	597	1,164	2,387	4,855	6,889	11,967	(1)
Kentucky.....	15	4	303	1,540	237	444	1,102	2,178	1,846	4,017	(1)
West South Central.....	106	9	1,056	4,652	807	1,668	2,931	8,638	6,637	14,784	611
Texas.....	66	6	803	3,584	622	1,290	2,244	6,115	4,966	10,703	(1)
Mountain.....	41	8	930	4,648	792	1,538	3,706	7,572	5,798	13,312	(1)
Pacific.....	148	35	1,391	11,246	1,082	2,165	7,820	16,975	14,057	32,227	957
California.....	116	33	1,259	10,467	982	1,964	7,300	15,569	13,001	29,704	900
Miscellaneous metal work, total..	695	242	24,555	143,326	16,607	33,803	87,097	283,946	415,174	698,917	11,335
New England.....	21	10	424	2,321	337	717	1,642	3,926	7,092	11,084	(1)
Middle Atlantic.....	164	38	3,318	20,027	2,145	4,240	11,560	37,466	52,201	89,243	965
New York.....	65	12	1,303	8,497	823	1,605	4,645	13,594	11,548	24,958	(1)
New Jersey.....	41	5	568	3,235	355	727	1,998	7,442	13,735	21,129	(1)
Pennsylvania.....	58	21	1,447	8,295	967	1,908	4,917	16,430	26,918	43,156	(1)
East North Central.....	132	47	6,298	38,968	4,491	8,973	25,308	91,852	127,001	215,396	4,577
Ohio.....	33	13	1,700	10,889	1,283	2,364	7,657	24,832	41,250	64,385	908
Indiana.....	15	4	1,085	7,037	758	1,707	4,466	15,403	14,290	29,222	(1)
Illinois.....	45	21	2,920	17,722	2,015	4,047	11,142	45,913	62,630	106,913	2,998
Michigan.....	33	9	561	3,148	411	809	1,930	5,417	8,584	14,331	(1)
West North Central.....	40	22	2,353	12,796	1,564	3,190	7,475	23,803	31,535	55,929	888
South Atlantic.....	91	38	3,687	19,213	2,516	5,121	11,447	35,025	68,246	103,858	1,747
Maryland.....	14	6	952	5,297	490	977	2,343	9,164	14,135	23,959	(1)
Virginia.....	7	5	342	2,036	267	599	1,425	3,914	7,475	11,157	(1)
Florida.....	37	12	971	4,660	697	1,451	2,746	8,252	18,198	26,430	(1)
East South Central.....	48	22	2,154	11,400	1,482	3,094	7,018	17,463	33,402	53,211	(1)
Kentucky.....	11	6	629	3,513	406	952	2,094	2,378	5,617	9,737	(1)
West South Central.....	80	26	2,632	12,015	1,610	3,429	7,135	20,723	39,511	60,730	671
Texas.....	50	18	2,037	8,764	1,192	2,491	4,889	14,574	30,849	45,995	545
Mountain.....	25	9	582	3,171	431	962	2,092	6,064	10,299	16,278	(1)
Pacific.....	94	30	3,107	23,415	2,031	4,077	13,420	47,624	45,887	93,188	1,673
California.....	76	24	2,656	20,193	1,827	3,673	12,152	42,268	35,583	77,333	1,376

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

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Table 2B.—GENERAL STATISTICS FOR THE MISCELLANEOUS METAL WORK, N.E.C. INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(Old SIC code 3449)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	2,023	460	39,340	229,010	28,134	56,812	145,215	429,063	532,746	963,322	17,303	42,122	401,076
New England.....	90	20	1,185	7,336	912	1,867	4,740	12,875	12,268	25,123	675	1,910	16,222
Massachusetts....	43	12	461	2,749	361	745	1,864	4,573	6,319	10,872	(1)	1,247	10,569
Connecticut.....	31	6	631	4,066	474	958	2,499	7,274	4,523	11,787	(1)	604	5,154
Middle Atlantic..	563	98	7,716	46,349	5,575	11,100	30,322	81,944	88,521	170,102	2,562	7,593	76,076
New York.....	237	47	3,123	19,651	2,243	4,445	12,296	34,393	25,355	59,236	1,192	2,641	24,081
New Jersey.....	134	13	1,079	6,413	753	1,523	4,009	13,357	17,372	30,669	(1)	1,059	14,063
Pennsylvania....	192	38	3,514	20,285	2,579	5,132	14,017	34,194	45,794	80,197	967	3,893	37,932
East North													
Central.....	370	100	9,266	56,856	6,804	13,599	36,615	124,203	150,912	272,212	5,603	12,337	127,512
Ohio.....	108	33	2,947	17,787	2,256	4,310	12,273	38,150	49,318	85,490	1,259	3,863	36,587
Indiana.....	40	9	1,346	8,530	961	2,113	5,425	18,571	17,799	35,864	(1)	1,241	15,457
Illinois.....	120	35	3,607	22,079	2,550	5,117	13,863	52,474	68,163	120,169	3,307	4,998	54,800
Michigan.....	74	18	1,051	6,506	793	1,573	4,054	11,480	13,277	24,863	504	1,685	15,553
Wisconsin.....	28	5	315	1,954	244	486	1,000	3,528	2,355	5,826	(1)	550	5,115
West North													
Central.....	117	35	3,053	16,694	2,109	4,281	10,164	30,546	36,597	67,686	1,138	2,899	30,933
Minnesota.....	29	12	1,034	5,949	815	1,626	4,045	8,657	11,317	20,216	(1)	1,028	10,465
Missouri.....	36	5	504	2,847	337	660	1,750	5,533	3,837	9,149	(1)	555	4,702
Kansas.....	16	7	363	1,698	169	348	755	2,965	5,983	9,279	(1)	212	2,792
South Atlantic...	270	60	5,502	27,842	3,902	7,868	16,865	49,581	81,968	132,502	2,289	5,169	41,769
Maryland.....	46	10	1,403	7,586	813	1,596	3,708	13,573	18,225	32,462	(1)	1,099	10,473
Virginia.....	29	10	854	4,499	666	1,397	2,975	7,278	10,623	17,786	(1)	525	3,556
North Carolina..	34	4	384	1,814	255	521	981	2,974	8,967	11,915	(1)	238	2,291
South Carolina..	19	6	511	2,383	375	811	1,649	4,251	8,482	13,432	(1)	371	2,978
Georgia.....	35	7	434	1,806	339	660	1,229	4,238	6,552	10,707	(1)	248	1,093
Florida.....	87	17	1,341	6,380	985	2,027	3,767	10,840	20,935	31,962	(1)	1,287	9,510
East South													
Central.....	119	30	2,920	14,786	2,079	4,258	9,405	22,318	40,291	65,178	726	2,976	26,268
Kentucky.....	26	10	932	5,053	643	1,396	3,196	4,556	7,463	13,754	(1)	994	6,964
Alabama.....	38	10	1,330	6,724	938	1,876	4,299	12,158	22,095	35,124	(1)	1,222	12,426
West South													
Central.....	186	35	3,688	16,667	2,417	5,097	10,066	29,361	46,148	75,514	1,282	3,485	26,976
Oklahoma.....	20	6	438	2,409	299	629	1,485	4,411	4,446	8,783	(1)	257	2,159
Texas.....	116	24	2,840	12,348	1,814	3,781	7,133	20,689	35,815	56,698	993	2,883	22,612
Mountain.....	66	17	1,512	7,819	1,223	2,500	5,798	13,636	16,097	29,590	(1)	1,058	8,613
Pacific.....	242	65	4,498	34,661	3,113	6,242	21,240	64,599	59,944	125,415	2,630	4,695	46,707
Oregon.....	16	4	383	2,693	172	342	1,051	4,809	8,342	13,331	(1)	489	4,823
California.....	192	57	3,915	30,660	2,809	5,637	19,452	57,832	48,584	107,037	2,276	3,931	39,771

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final Census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF MISCELLANEOUS METAL WORK, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Miscellaneous Metal Work, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers					
			1963		1958			
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)		
3446- --	Architectural and ornamental work, (except curtain, wall and other exterior panels), total.....		(X)	305,350	(X)	332,941		
	Iron and steel:							
34460 11	Grills, all types, including open mesh partitions and guards.....	Short tons	(NA)	27,118	(NA)	8,754		
34460 13	Fences, and gates, other than wire:							
	Quantity reported.....	..do....	6,815	3,888	<sup>r</sup> 18,545	9,654		
	Quantity not reported.....	.....	(X)	2,522	-	-		
34460 15	Stairs, staircases, fire escapes, and railings:							
	Quantity reported.....	Short tons	97,537	51,882	97,235	51,437		
	Quantity not reported.....	.....	(X)	18,204	(X)	12,066		
34460 17	Open flooring and grating for building construction:							
	Quantity reported.....	Short tons	41,465	16,555	<sup>r</sup> 74,257	29,740		
	Quantity not reported.....	.....	(X)	7,800	(X)	6,964		
34460 19	Other.....	Short tons	(NA)	54,283	(NA)	97,090		
	Aluminum:							
34460 33	Grills, all types, including open mesh partitions and guards:							
	Quantity reported.....	Short tons	3,743	8,034	(NA)	53,345		
	Quantity not reported.....	.....	(X)	2,442				
34460 34	Fences and gates, other than wire:							
	Quantity reported.....	Short tons	666	1,404				
	Quantity not reported.....	.....	(X)	1,156				
34460 35	Stairs, staircases, fire escapes, and railings:							
	Quantity reported.....	Short tons	2,182	7,483				
	Quantity not reported.....	.....	(X)	4,162				
34460 36	Open flooring and grating for building construction:							
	Quantity reported.....	Short tons	1,397	2,373				
	Quantity not reported.....	.....	(X)	1,960				
34460 38	Other.....	Short tons	(NA)	36,605				
34460 41	Architectural and ornamental metal work other than aluminum or steel.....	..do....	(NA)	5,452	(NA)	9,528		
34460 00	Ornamental and structural metal works, not specified by kind.....	.....	(X)	52,027	(X)	54,363		
3449- --	Miscellaneous metal work, total.....		(X)	794,314	(X)	602,625		
34492 --	Prefabricated and portable metal buildings and parts.....		(X)	221,082	(X)	195,123		
	Grain storage buildings:							
34492 11	Steel.....	Number.....	12,293	23,061	<sup>r</sup> 18,195	44,129		
34492 21	Aluminum.....	..do....						
	Other farm service buildings (livestock shelters, etc.):							
34492 12	Steel.....	..do....	4,745	12,931				
34492 22	Aluminum.....	..do....						
	Dwellings:							
34492 13	Steel.....	..do....	(NA)	4,295	(NA)	83,571		
34492 23	Aluminum.....	..do....	(NA)	3,259				
	Industrial and commercial buildings:							
34492 14	Steel.....	..do....	17,574	110,726				
34492 24	Aluminum.....	..do....	369	2,585				
	Other (including garages, etc.):							
34492 17	Steel.....	..do....	(NA)	18,360	(NA)	15,820		
34492 27	Aluminum.....	..do....	(NA)	15,820				
	Panels, parts or sections for prefabricated buildings, not sold as a complete unit:							
34492 53	Steel.....	Short tons	(NA)	16,802	56,439	26,061		
34492 55	Aluminum.....	..do....	(NA)	9,041				
34492 00	Prefabricated and portable metal buildings and parts, not specified by kind.....	.....	(X)	4,202	(X)	10,087		
34493 --	Miscellaneous metal building materials.....	.....	(X)	507,551	(X)	407,502		
	Metal plaster bases:							
34493 11	Expanded metal lath.....	1,000 sq. yds.....	66,795	23,284	80,591	25,257		
34493 32	Metal plaster base accessories.....	.....	(X)	31,866	(X)	27,210		
34493 42	Fabricated bar joists.....	Short tons	380,952	89,348	296,874	69,475		
34493 52	Fabricated concrete reinforcing bars.....	..do....	2,106,582	276,286	1,232,329	217,432		
	Curtain wall:							
34493 73	Steel, including stainless.....	1,000 sq. ft.....	14,001	10,095	23,687	24,300		
34493 75	Aluminum.....	..do....	11,689	41,380				
34493 79	All other, including combination of metals.....	..do....	(NA)	15,573				
34493 00	Miscellaneous metal building materials, not specified by kind.....	.....	(X)	19,719	(X)	43,828		
34490 00	Miscellaneous metal work, not specified by kind.....	.....	(X)	65,681	(X)	( <sup>1</sup> )		

- Represents zero. n.e.c. Not elsewhere classified. (NA) Not available. (X) Not applicable. <sup>r</sup>Revised.<sup>1</sup>Because of the lack of sufficient product detail on the reports for small establishments in the 1958 Census of Manufactures it was not possible to effect a precise distinction between fabricated structural iron and steel, not specified by kind (3441000) and miscellaneous metal work, not specified by kind. Accordingly, the value of such shipments, \$130,111 thousand, are included in the data for SIC 3441.

# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34D-1



preliminary  
report

INDUSTRY SERIES

## Screw machine products

SIC Code 3451

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Screw Machine Products Industry shipped products valued at \$590 million, an increase of 39 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 16 percent from 1958 to a total of 37 thousand employees in 1963. Value added by manufacture amounted to \$358 million in 1963, an increase of 43 percent from 1958.

The Screw Machine Products Industry includes establishments engaged primarily in the manufacture of automatic or hand screw machine products from rod, bar or tube stock of metal, fiber, plastics or other materials.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE SCREW MACHINE PRODUCTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3451)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	1,875	517	37,046	214,032	30,908	63,664	160,493	358,365	234,205	589,667	18,641
1958.....	1,792	419	31,836	154,925	25,892	51,915	113,989	249,975	175,111	425,113	11,222
1954 <sup>3</sup> .....	1,795	411	35,009	151,444	29,694	61,030	112,641	243,565	158,592	406,457	11,886
1947 <sup>3</sup> .....	1,209	(NA)	28,623	87,292	24,859	52,461	69,235	144,791	77,224	222,015	10,800
1939 <sup>3</sup> .....	288	(NA)	(NA)	(NA)	10,571	(NA)	14,287	31,654	20,910	52,564	(NA)

(NA) Not available.

<sup>1</sup>Revised.

<sup>2</sup>Includes expenditures for plants under construction and not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>3</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>4</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees is as follows: Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). Figures for production workers are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958 and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Screw Machine Products Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Screw Machine Products Industry amounted to \$590 million. Of this total, \$35 million were products primary to other industries; and \$11 million were receipts for miscellaneous activities. The industry shipments of primary products represented 94 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 94 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$599 million of Screw Machine Products were shipped by all producers of these products. Of this total, \$544 million, or 91 percent, were shipped by plants classified in Industry 3451, Screw Machine Products while the remainder was shipped by plants classified in other industries. The comparable 1958 ratio was 87 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE SCREW MACHINE PRODUCTS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3451)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,875	517	37,046	214,032	30,908	63,664	160,493	358,365	234,205	589,667	18,641	31,836	249,975
New England.....	312	80	6,105	32,653	5,090	10,596	24,060	51,150	28,535	79,478	3,312	5,517	39,088
Massachusetts....	89	26	2,086	10,968	1,730	3,691	8,132	16,654	10,169	26,655	1,284	1,824	12,457
Connecticut.....	172	47	3,378	18,495	2,841	5,832	13,646	29,612	15,661	45,299	1,640	3,147	23,087
Middle Atlantic....	368	96	6,056	33,258	5,065	9,907	24,919	55,977	32,283	88,202	3,008	5,592	40,683
New York.....	166	46	3,126	17,156	2,631	5,031	12,769	28,323	18,297	46,687	1,173	2,776	20,334
New Jersey.....	118	30	1,767	10,252	1,448	2,984	7,570	17,734	8,486	26,188	1,499	1,564	12,337
Pennsylvania....	84	20	1,163	5,850	986	1,892	4,580	9,920	5,500	15,327	(1)	1,252	8,012
East North Central.....	859	267	19,088	112,990	16,073	33,508	85,869	190,843	144,033	332,392	8,774	16,136	131,282
Ohio.....	201	64	5,013	28,862	4,237	8,695	21,773	46,263	34,395	78,586	2,072	4,592	36,314
Indiana.....	70	22	1,723	9,115	1,492	3,061	7,213	17,212	11,181	28,370	691	1,436	11,363
Illinois.....	246	77	5,753	33,432	4,748	9,574	25,143	52,680	33,685	86,620	2,858	4,877	39,796
Michigan.....	284	90	5,587	35,735	4,763	10,457	27,415	64,884	58,970	123,329	2,596	4,489	38,206
Wisconsin.....	58	14	1,012	5,846	833	1,721	4,325	9,804	5,802	15,487	557	742	5,603
West North Central.....	68	22	1,680	9,760	1,373	2,768	7,214	16,098	9,052	25,233	1,771	1,633	12,577
Minnesota.....	25	9	670	4,056	582	1,132	3,214	6,372	3,487	10,029	1,282	529	4,481
Missouri.....	30	8	810	4,767	621	1,298	3,316	8,123	4,741	12,788	(1)	909	6,894
South Atlantic....	30	5	532	2,620	436	919	1,891	6,254	2,406	8,648	(1)	271	1,899
East South Central.....	6	3	160	781	129	272	593	1,424	892	2,274	(1)	121	816
West South Central.....	19	8	365	1,998	305	687	1,457	3,456	2,116	5,492	(1)	194	1,723
West.....	213	36	3,060	19,972	2,437	5,007	14,490	33,163	14,888	47,948	1,187	2,372	21,907
California.....	194	31	2,811	18,599	2,235	4,650	13,474	30,526	13,662	44,152	1,072	2,102	19,498

<sup>1</sup>Less than \$500 thousand.



Table 3.—VALUE OF SCREW MACHINE PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Screw Machine Products Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3451- --	Screw machine products, total.....	598,727	428,805
34510 12	Automotive.....	114,385	77,298
34510 22	Aircraft and ordnance.....	79,716	54,497
34510 42	Household appliances, including radio and television.....	43,935	37,880
34510 62	Machinery.....	55,430	36,537
34510 98	All other screw machine products.....	219,263	138,652
34510 00	Screw machine products, not specified by kind.....	85,998	83,941

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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# 1963 CENSUS OF MANUFACTURES

MC33(P)-34D-2



## INDUSTRY SERIES

preliminary  
report

### Bolts, nuts, rivets and washers

SIC Code 3452

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Bolts, Nuts, Rivets, and Washers Industry had total shipments valued at \$1,213 million, an increase of 38 percent over 1958 and 5 percent over 1962, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 8 percent from 1958 but no change from 1962 to a total of 57 thousand employees in 1963. Value added by manufacture amounted to \$693 million in 1963, an increase of 37 percent from 1958 and 7 percent from 1962.

The Bolts, Nuts, Rivets, and Washers Industry includes establishments engaged primarily in the manufacture of bolts, nuts, screws, washers, rivets, formed and threaded wire goods, and special industrial fasteners.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE BOLTS, NUTS, RIVETS, AND WASHERS INDUSTRY FOR SELECTED YEARS  
(SIC code 3452)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	568	320	57,449	370,673	43,814	92,338	256,856	692,942	525,914	1,213,026	30,563	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	57,420	360,644	43,533	91,726	241,121	649,098	514,665	1,158,030	30,986	3
1961 <sup>2</sup> .....	(NA)	(NA)	55,031	324,081	41,481	83,648	214,778	561,247	445,394	1,005,484	21,245	2
1960 <sup>2</sup> .....	(NA)	(NA)	58,521	331,414	44,332	88,768	221,805	595,859	465,279	1,044,837	29,260	2
1959 <sup>2</sup> .....	(NA)	(NA)	58,796	338,961	45,088	94,952	231,746	636,021	487,254	1,112,915	(33,219)	1
1958.....	525	283	53,270	286,039	40,202	80,579	191,886	504,731	370,608	880,328	43,707	(X)
1954 <sup>3</sup> .....	457	256	53,729	246,235	42,309	86,427	173,019	421,512	318,783	738,482	26,090	(X)
1947 <sup>3</sup> .....	364	217	49,235	151,514	40,908	85,895	115,790	285,451	178,301	463,752	18,265	(X)
1939 <sup>3</sup> .....	219	(NA)	(NA)	(NA)	20,722	(NA)	26,216	63,999	50,654	114,633	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. The figures shown in parenthesis either have associated standard errors exceeding 15 percent or are not consistent with related data. Thus these estimates may be of limited reliability. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic

importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels from 1958 to 1963.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Bolts, Nuts, Rivets, and Washers Industry consist not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Bolts, Nuts, Rivets, and Washers Industry amounted to \$1,213 million. Of this total, \$102 million were products primary to other industries; and \$67 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$1,155 million of bolts, nuts, rivets, and washers were shipped by all producers of these products. Of this total, \$1,043 million, or 90 percent, were shipped by plants classified in Industry 3452, Bolts, Nuts, Rivets, and Washers, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 87 percent.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries, and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also



their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.

Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with census of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE BOLTS, NUTS, RIVETS, AND WASHERS INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3452)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States,	568	320	57,449	370,673	43,814	92,338	256,856	692,942	525,914	1,213,026	30,563	53,270	504,731
New England.....	69	44	8,437	47,932	6,273	13,112	32,232	88,981	50,128	140,015	3,145	9,247	70,823
Massachusetts....	21	13	4,373	24,954	3,238	6,755	17,012	41,968	24,362	66,461	1,013	4,641	34,974
Connecticut.....	33	21	2,965	17,314	2,155	4,348	11,112	36,766	18,089	55,802	1,667	3,486	27,522
Middle Atlantic...	122	59	12,377	79,814	9,220	18,843	55,112	147,814	102,290	248,834	5,243	11,511	110,957
New York.....	45	18	2,975	18,250	2,160	4,373	11,533	36,200	29,536	66,281	1,427	2,465	25,643
New Jersey.....	28	17	3,200	22,196	2,307	4,749	14,893	44,763	23,904	67,935	2,053	2,638	25,760
Pennsylvania.....	49	24	6,202	39,368	4,753	9,721	28,686	66,851	48,850	114,618	1,763	6,408	59,554
East North Central	254	154	28,276	191,892	21,827	46,523	134,719	352,089	301,781	648,819	17,062	25,788	244,435
Ohio.....	71	49	9,514	62,724	7,401	15,315	44,156	110,381	103,330	212,084	4,715	9,226	86,121
Indiana.....	11	8	1,103	7,051	836	1,723	4,897	13,900	12,539	26,654	609	1,292	12,811
Illinois.....	95	58	12,554	85,973	9,638	21,304	60,824	158,102	117,052	272,826	7,965	11,175	105,204
Michigan.....	67	36	4,416	31,608	3,444	7,099	21,919	61,308	62,183	122,120	3,366	3,489	33,898
Wisconsin.....	10	3	689	4,536	508	1,082	2,923	8,398	6,677	15,135	( <sup>1</sup> )	606	6,401
West North Central	12	6	548	3,188	409	838	2,045	5,874	5,812	11,621	( <sup>1</sup> )	613	4,374
South Atlantic....	11	7	1,510	7,444	1,270	3,037	5,371	20,371	14,128	33,919	1,323	1,107	10,626
East South Central	12	6	1,147	6,532	963	1,887	4,852	10,977	12,177	22,993	912	801	8,853
West South Central	15	5	381	1,915	316	666	1,278	3,303	2,995	6,376	( <sup>1</sup> )	327	3,291
West.....	73	39	4,773	31,956	3,526	7,432	21,247	63,533	36,603	100,449	2,518	4,452	51,372
California.....	68	37	4,669	31,351	3,464	7,295	20,877	62,583	35,687	98,562	2,497	3,778	50,341

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3A.--QUANTITY AND VALUE OF BOLTS, NUTS, RIVETS, AND WASHERS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Bolts, Nuts, Rivets, and Washers' Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3452- --	Bolts, nuts, rivets, and washers, total.....		(X)	1,155,492	(X)	859,446
34521 --	Standard industrial fasteners (bolts, nuts, screws, etc.).....		(X)	833,838	(X)	669,560
	Bolts, threaded rods, lag screws, and studs, including nuts when nuts and bolts are sold as a unit:					
34521 01	Standard hex, square, and 12-point bolts and screws.....	1,000 lbs...	258,168	58,445	741,791	193,090
34521 03	Standard round head bolts (carriage, elevator, step, plow and track).....	...do.....	279,737	60,397		
34521 05	Lag screws and bolts.....	...do.....	66,382	15,672		
34521 07	Studs, threaded rods, and threaded wires.....	...do.....	121,091	45,800		
34521 09	Aircraft bolts.....	...do.....	5,449	18,630		
	Nuts:					
34521 13	Standard nuts (hexagon, or square, regular, heavy, or jam, finished, semi-finished or unfinished, including slotted or castle) (exclude sheet metal nuts).....	...do.....	221,055	69,285	127,252	49,127
	Locknuts (exclude sheet metal nuts):					
34521 15	Aircraft.....	...do.....	14,932	32,813	(NA)	19,875
34521 17	Commercial (except aircraft).....	...do.....	27,927	17,005	26,482	16,486
34521 18	Sheet metal nuts, including push-on, "J" and "U" type step-on-cage, anchor, and locknuts, nut retainers, etc.....	...do.....	25,342	18,242	48,058	26,923
34521 19	Other nuts, including machine screw and stove bolt nuts, wing nuts, etc..	...do.....	53,631	33,495		
	Screws:					
34521 23	Cap and set screws, hexagon head, 1/4" diameter and larger.....	1,000 pieces	3,620,915	73,318	1,980,573	48,422
34521 25	Other cap and set screws.....	...do.....	848,667	33,909	820,608	36,226
34521 33	Machine screws, including stove bolts.....	...do.....	13,527,661	64,784	13,410,495	59,465
34521 36	Tapping screws (thread forming and thread cutting screws, including sheet metal and hardened metallic drive screws).....	...do.....	13,648,120	55,648	9,706,451	34,722
34521 38	Wood screws (except wood drive screws).....	1,000 gross..	41,508	18,288	59,632	26,773
34521 39	Other screws.....	...do.....	(X)	24,441		
	Washers:					
34521 45	Spring, spiral and other lock.....	1,000 pieces	11,079,354	24,909	7,801,492	17,147
34521 49	Flat and other.....	1,000 lbs...	(X)	30,404	94,706	18,732
	Rivets:					
34521 51	Aircraft rivets.....		(X)	13,402	(X)	19,457
34521 53	7/16" and under (other than aircraft).....	1,000 lbs...	124,977	41,875	103,851	27,131
34521 57	1/2" and over (other than aircraft).....	...do.....	73,795	11,975	84,968	12,919
34521 81	Pins (aircraft, straight, dowel, clevis, cotter and miscellaneous patent).....		(X)	19,426	(X)	9,185
34521 98	Other standard fasteners, including toggle bolts, etc.....		(X)	32,450	(X)	24,386
34521 00	Bolts, nuts, screws, rivets, etc., not specified by kind.....		(X)	19,225	(X)	29,494
34522 15	Special industrial fasteners (nonstandard).....		(X)	236,419	(X)	
34523 --	Headed products (produced by cold and hot heading) other than industrial fasteners.....		(X)	73,896	(X)	
	Other headed products:					
34523 12	Automotive.....		(X)	40,463	(X)	179,392
34523 22	Aircraft and ordnance.....		(X)	6,474	(X)	
34523 42	Household appliances, including radio and television.....		(X)	9,772	(X)	
34523 62	Machinery.....		(X)	1,267	(X)	
34523 98	All other end uses.....		(X)	15,920	(X)	
34520 00	Bolts, nuts, rivets, and washers, not specified by kind.....		(X)	11,339	(X)	10,494

(NA) Not available. (X) Not applicable.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR BOLTS, NUTS, RIVETS, AND WASHERS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3452	Bolts, nuts, rivets, and washers.....1963....	131	124
	.....1958....	99	123
34521	Bolts, nuts, screws, etc., standard types only...1963....	118	124
	.....1958....	95	123









U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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OFFICIAL BUSINESS



# 1963 CENSUS OF MANUFACTURES

MC63(P)-34D-3



INDUSTRY SERIES

preliminary  
report

## Metal stampings

SIC Code 3461

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Metal Stampings Industry shipped products valued at \$2,651 million, an increase of 27 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 5 percent from 1958 but a decrease of 1 percent from 1962 to a total of 131 thousand employees in 1963. Value added by manufacture amounted to \$1,350 million in 1963, an increase of 29 percent from 1958 and 3 percent from 1962.

The Metal Stampings Industry includes establishments engaged primarily in the manufacture of metal stampings by the use of tools, dies, jigs and fixtures to punch, draw, form, or otherwise modify materials under pressure in a machine (primarily punch and draw presses).

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE METAL STAMPINGS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3461)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	2,566	1,107	131,055	766,621	107,455	220,112	561,174	1,349,783	1,315,404	2,651,446	98,246	(X)
1962 <sup>3</sup> .....	(NA)	(NA)	132,797	754,943	107,820	224,828	546,941	1,310,428	1,305,551	2,605,775	68,728	3
1961 <sup>3</sup> .....	(NA)	(NA)	125,312	684,112	100,597	207,293	486,134	1,181,190	1,160,058	2,338,008	48,387	2
1960 <sup>3</sup> .....	(NA)	(NA)	134,290	729,036	107,966	225,649	521,060	1,220,361	1,229,952	2,450,795	56,508	2
1959 <sup>3</sup> .....	(NA)	(NA)	135,264	727,827	109,693	227,258	524,330	1,240,511	1,269,112	2,498,962	(80,926)	1
1958 <sup>3</sup> .....	2,454	1,039	125,300	644,217	99,759	199,664	457,345	1,045,220	1,039,387	2,095,409	50,407	(X)
1954 <sup>3</sup> .....	2,320	930	135,472	594,833	112,338	225,687	440,746	958,067	868,005	1,841,508	39,290	(X)
1947 <sup>3</sup> .....	2,032	(NA)	144,961	418,609	125,725	153,130	329,141	691,229	554,963	1,246,192	(NA)	(X)
1939 <sup>3</sup> .....	1,020	(NA)	(NA)	(NA)	67,991	(NA)	81,420	192,100	178,430	370,530	(NA)	(X)

(NA) Not available. (X) Not applicable. <sup>3</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Metal Stampings Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Metal Stampings Industry amounted to \$2,651 million. Of this total, \$396 million were products primary to other industries; and \$133 million were receipts for miscellaneous activities. The industry shipments of primary products represented 84 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 86 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$2,460 million of metal stampings were shipped by all producers of these products. Of this total, \$2,123 million, or 86 percent, were shipped by plants classified in Industry 3461, Metal Stampings while the remainder was shipped by plants classified in other industries. The comparable ratio in 1958 was 87 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE METAL STAMPINGS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3461)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	2,566	1,107	131,055	766,621	107,455	220,112	561,174	1,349,783	1,315,404	2,651,446	98,246	125,300	1,045,220
New England.....	256	103	10,439	57,848	8,195	16,747	39,618	96,489	71,376	166,557	4,046	9,741	67,846
Massachusetts.....	112	49	3,428	18,076	2,740	5,726	12,560	28,197	20,028	48,063	950	3,553	23,377
Rhode Island.....	35	11	715	3,531	582	1,148	2,425	6,587	5,458	12,051	(1)	614	4,865
Connecticut.....	102	41	6,190	35,760	4,780	9,675	24,278	60,872	45,361	105,101	2,854	5,526	39,259
Middle Atlantic...	630	247	32,833	195,499	26,622	53,907	143,945	338,146	301,605	637,505	14,181	32,577	265,720
New York.....	342	124	12,080	65,901	9,753	19,838	46,425	113,424	92,539	205,311	3,835	11,780	91,021
New Jersey.....	155	58	6,156	35,778	4,869	9,912	24,983	60,526	53,064	114,003	3,144	5,655	49,587
Pennsylvania.....	133	65	14,597	93,820	12,000	24,157	72,537	164,196	156,002	318,191	7,202	15,142	125,112
East North Central	1,111	549	66,448	399,904	54,775	112,794	293,591	708,583	723,258	1,424,631	66,337	63,316	552,220
Ohio.....	253	137	17,452	106,843	14,379	29,779	81,373	180,627	186,092	362,701	7,478	17,124	130,646
Indiana.....	92	40	7,042	42,602	5,868	11,758	32,708	73,890	76,640	150,542	37,321	6,246	59,255
Illinois.....	336	149	16,507	100,140	13,560	27,781	72,623	175,607	154,389	330,952	6,175	17,115	151,709
Michigan.....	343	178	15,496	97,241	12,846	26,755	69,348	176,582	207,318	381,613	6,629	13,672	127,333
Wisconsin.....	87	45	9,951	53,078	8,122	16,721	37,539	101,877	98,819	198,873	8,734	9,159	83,277
West North Central	105	52	4,849	27,493	3,933	7,921	19,190	45,708	38,668	83,783	3,583	4,354	34,477
Minnesota.....	46	27	2,124	12,336	1,681	3,453	8,578	19,736	13,012	32,607	789	1,450	11,020
Iowa.....	11	5	747	3,873	598	1,264	2,784	5,268	6,544	11,868	(1)	1,041	7,690
Missouri.....	39	16	1,702	9,588	1,423	2,735	6,491	18,269	17,337	35,119	2,522	1,562	13,542
South Atlantic....	73	35	5,760	28,374	4,983	10,253	22,774	56,462	75,768	130,515	5,122	5,950	42,512
West Virginia....	10	7	1,113	5,122	967	1,836	4,165	7,834	9,647	17,588	(1)	1,515	9,036
Georgia.....	18	10	1,857	7,718	1,718	3,671	6,679	16,156	22,990	38,799	1,180	1,244	8,993
East South Central	52	32	4,166	19,579	3,532	7,442	14,296	37,163	44,623	81,372	2,054	2,506	18,377
Kentucky.....	16	14	1,667	9,555	1,346	2,848	6,758	14,951	14,747	29,260	660	1,432	9,234
Alabama.....	9	4	441	1,804	335	543	1,007	4,312	5,072	9,156	(1)	513	5,050
West South Central	49	12	1,049	5,002	949	2,084	3,695	10,272	11,500	21,577	502	1,002	7,780
Texas.....	36	9	655	3,275	617	1,416	2,402	7,094	7,967	15,058	(1)	535	3,809
West.....	290	77	5,511	32,922	4,466	8,964	24,065	56,960	48,606	105,456	2,421	5,854	56,288
California.....	252	73	5,144	30,744	4,169	8,400	22,557	53,508	44,878	98,348	2,201	5,537	53,691

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.--QUANTITY AND VALUE OF METAL STAMPINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Metal Stampings Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3461- --	Metal stampings, total.....		(X)	2,460,013	(X)	1,948,110
34611 --	Vitreous-enameled products.....		(X)	171,699	(X)	172,453
34611 11	Cooking and kitchen utensils, including household, commercial, and hospital.		(X)	25,137	(X)	21,707
34611 41	Architectural vitreous (porcelain) parts (exterior and interior), including store front and curtain wall components.....		(X)	23,042	(X)	16,954
34611 75	Laundry equipment parts (sold separately).....		(X)	7,692	(X)	28,754
34611 98	Other vitreous (porcelain) enameled products, including refrigerator parts.		(X)	15,828	(X)	22,754
34611 00	Vitreous enameled products, not specified by kind.....		(X)	-	(X)	2,284
34612 --	Job stampings, except automotive <sup>3</sup> .....		(X)	754,883	(X)	576,178
34612 11	Aviation stamps.....		(X)	19,804	(X)	29,945
34612 15	Agricultural equipment stampings, including tractor.....		(X)	22,045	(X)	28,568
34612 25	Electrical appliance stampings (except refrigeration and laundry equipment)		(X)	56,853	(X)	40,496
34612 31	Furniture stampings.....		(X)	16,388	(X)	14,397
34612 41	Office machine stampings.....		(X)	25,486	(X)	14,445
34612 51	Radio and television stampings.....		(X)	89,634	(X)	73,914
34612 61	Refrigerator stampings.....		(X)	51,748	(X)	43,392
34612 71	Stove, heater, and air-conditioner stampings.....		(X)	28,347	(X)	21,462
34612 84	Laundry equipment stampings.....		(X)	16,670	(X)	23,150
34612 98	Other job stampings.....		(X)	384,491	(X)	231,336
34612 00	Job stampings, except automotive, not specified by kind.....		(X)	43,417	(X)	45,073
34613 13	Automotive job stampings (truck, bus, and passenger car) <sup>3</sup> .....		(X)	844,749	(X)	551,179
34614 --	Stamped and spun hospital utensils, and cooking and kitchen household utensils, aluminum.....		(X)	95,746	(X)	110,710
34614 02	Cooking and kitchen utensils: Household pressure cookers.....		(X)	88,232	(X)	96,875
34614 03	Other household utensils.....		(X)	7,514	(X)	13,835
34614 05	Commercial and hospital.....		(X)		(X)	
34615 --	Stamped and spun commercial and hospital utensils and cooking and kitchen household utensils, except aluminum.....		(X)	138,381	(X)	113,481
34615 11	Stainless steel: Household.....		(X)	54,648		
34615 12	Commercial and hospital.....		(X)	17,912		
34615 16	Tinware.....		(X)	30,570	(X)	113,481
34615 98	Other metal.....		(X)	27,934		
34615 00	Stamped and spun hospital utensils and cooking and kitchen utensils, not specified by kind.....		(X)	7,317		
34616 --	Metal commercial closures, except crowns.....		(X)	145,739	(X)	131,133
34616 11	Screw thread and lug types (nonvacuum) (for glass containers): <sup>2</sup> Aluminum.....	1,000 units	1,940,537	12,078	2,140,799	13,808
34616 31	Tin mill.....	do.	7,126,673	48,963	7,407,765	49,986
34616 40	Other metal commercial closures, including vacuum types, aluminum and tin mill (for glass containers).....	do.	6,853,541	65,228	5,042,630	45,880
34616 47	Metal commercial closures for metal and plastic containers.....	do.	1,070,480	8,141	(NA)	11,284
34616 51	Milk bottle closures (aluminum and tin mill only).....	do.	(NA)		(NA)	
34616 00	Metal commercial closures (except crowns), not specified by kind.....	do.	(X)	11,329	(X)	10,175
34617 11-	Metal crowns for glass and metal containers <sup>2</sup> .....	1,000 gross	318,067	81,664	310,302	80,751

See footnotes at end of table.

Table 3.--QUANTITY AND VALUE OF METAL STAMPINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958--Continued

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
34618 --	Other stamped and pressed metal end products.....	.....	(X)	235,842	(X)	223,271
	Metal home canning closures: <sup>5</sup>					
	Tin mill products:					
34618 31	Metal lids.....	1,000 gross	7,657	9,733	10,063	12,114
34618 11	Metal screw bands.....	..do.....	2,439	3,874	2,975	5,655
34618 49	Other home canning closures.....	..do.....			(NA)	(6)
34618 59	Perforated metal end products.....	.....	(X)	17,050	(X)	14,814
	Pails, ash cans, garbage cans, tubs, etc., excluding shipping containers:					
34618 61	Galvanized steel.....	.....	(X)	36,586	(X)	32,219
34618 69	Other metal, including other grades of steel.....	.....	(X)	10,669	(X)	7,911
34618 98	Other stamped and pressed metal end products.....	.....	(X)	149,103	(X)	<sup>6</sup> 147,713
34618 00	Other stamped and pressed metal end products, not specified by kind.....	.....	(X)	8,827	(X)	2,845
34610 00	Metal stampings, not specified by kind.....	.....	(X)	91,310	(X)	88,954

-- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>Data are limited to vitreous-enamelled products produced from materials owned by the producing company. Data do not include the value of receipts for enameling work done on materials owned by other (enameling of products for the trade.)

<sup>2</sup>Data are limited to washing machine parts (sold separately).

<sup>3</sup>"Job stampings" are mainly parts which are sold to other manufactures for incorporation into their own products. Job stampings may be made from materials owned by the establishment or from materials owned by the customer. These figures represent only those stampings made from materials owned by the establishment performing the stamping operation.

<sup>4</sup>Data represent electrical appliance stampings (except refrigeration and washing machines).

<sup>5</sup>Figures for 1963 and 1958 as reported on Monthly Survey M34H, "Closures for Containers", are as follows:

Product	Unit of measure	Quantity of shipments including interplant transfers	
		1963	1958
Metal commercial closures for glass containers:			
Aluminum screw thread and lug type.....	1,000 units...	1,913,304	1,973,869
Tin mill screw thread and lug type.....	..do.....	7,280 227	7,776,361
Vacuum types, aluminum and tin.....	..do.....	6,553,092	4,301,953
Other types, aluminum and tin mill.....	..do.....		600,916
Metal closures for metal and plastic containers.....	..do.....	<sup>1</sup> 1,103,215	(NA)
Crowns.....	1,000 gross...	315,771	306,765
Home canning closures for glass containers, total.....	1,000 gross...	9,991	14,382
Tin mill products:			
Metal lids.....	..do.....	7,648	10,435
Metal screw bands.....	..do.....		3,005
Other home canning closures, including zinc screw caps and bands (one-piece), glass lids, shoulder seal jar rings, top seal jar rings and other type home canning closures.....	..do.....	2,343	942

(NA) Not available. <sup>1</sup>Revised.

<sup>6</sup>For 1958 product code 3461849 is combined with product code 3461898.





# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34E-1



INDUSTRY SERIES

preliminary  
report

## Fabricated wire products, n.e.c.

SIC Code 3481

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Fabricated Wire Products, N.E.C., Industry had total shipments valued at \$1,014 million, an increase of 16 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 1 percent from 1958 and 9 percent from 1962 to a total of 55 thousand employees in 1963. Value added by manufacture amounted to \$528 million in 1963, an increase of 20 percent from 1958 but a decrease of 6 percent from 1962.

The Fabricated Wire Products, N.E.C., Industry includes establishments engaged primarily in the manufacture of miscellaneous fabricated wire products from purchased wire. Rolling mills engaged in manufacturing wire products are classified in Major Group 33; establishments manufacturing non-ferrous wire nails and spikes in Industry 3399; those drawing and insulating nonferrous wire in Industry 3357; and those assembling wire bedsprings or seats are classified in Major Group 25.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.—GENERAL STATISTICS FOR THE FABRICATED WIRE PRODUCTS, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3481)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,564	554	55,111	296,266	44,716	91,264	211,731	528,157	487,226	1,013,708	24,409	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	60,364	325,554	48,407	100,635	226,601	561,389	512,263	1,067,822	32,547	3
1961 <sup>2</sup> .....	(NA)	(NA)	57,405	300,298	45,822	94,876	208,087	510,512	472,342	983,642	22,473	2
1960 <sup>2</sup> .....	(NA)	(NA)	60,874	307,217	48,858	99,456	218,029	518,944	494,353	1,016,382	28,577	2
1959 <sup>2</sup> .....	(NA)	(NA)	60,714	308,944	49,322	103,382	222,745	535,323	520,507	1,052,956	25,224	1
1958.....	1,463	538	55,476	261,027	44,125	86,278	184,432	439,940	425,981	874,923	18,105	(X)
1954 <sup>3</sup> .....	1,275	498	59,929	243,904	50,067	99,329	181,835	413,310	352,480	768,709	17,503	(X)
1947 <sup>3</sup> .....	911	(NA)	56,973	161,759	49,371	100,490	128,736	266,966	199,007	465,973	15,540	(X)
1939 <sup>3</sup> .....	669	(NA)	35,916	49,067	30,386	(NA)	35,539	83,865	74,952	158,817	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1959 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

August 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, A. Ross Eckler, Director





(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Fabricated Wire Products, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Fabricated Wire Products, N.E.C., Industry amounted to \$1,014 million. Of this total, \$77 million were products primary to other industries; and \$53 million were receipts for miscellaneous activities. The industry shipments of primary products represent 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,389 million of fabricated wire products, n.e.c., were shipped by all producers of these products. Of this total, \$884 million, or 64 percent, were shipped by plants classified in Industry 3481, Fabricated Wire Products, N.E.C., while the remainder was shipped by plants classified in other industries. The 1958 ratio was 63 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary

## 1963 CENSUS OF MANUFACTURES

3

reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE FABRICATED WIRE PRODUCTS, N.E.C., INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3481)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll  (\$1,000)	Number	Man-hours  (1,000)	Wages  (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	1,564	554	55,111	296,266	44,716	91,264	211,731	528,157	487,226	1,013,708	24,409	55,476	439,940
New England.....	145	58	4,270	20,766	3,476	7,608	14,958	35,164	25,975	60,443	1,214	4,972	35,647
Massachusetts.....	55	22	1,530	6,848	1,240	2,532	4,901	12,771	11,380	23,507	(1)	2,219	15,233
Connecticut.....	70	34	2,509	12,788	2,040	4,675	9,135	20,283	12,879	33,046	505	2,603	19,509
Middle Atlantic...	414	129	13,763	72,967	11,105	22,420	52,896	135,443	112,280	248,541	4,727	14,271	117,298
New York.....	217	59	4,671	23,106	3,751	7,645	16,404	39,968	33,141	72,162	1,333	4,943	34,641
New Jersey.....	90	24	2,935	16,688	2,393	4,628	11,972	31,077	24,581	55,988	690	2,662	25,822
Pennsylvania.....	107	47	6,157	33,173	4,961	10,147	24,520	64,398	54,558	120,391	2,704	6,666	56,835
East North Central	436	179	21,715	126,178	17,848	36,368	91,509	202,182	183,739	385,895	9,412	22,373	175,216
Ohio.....	101	34	2,959	16,801	2,389	4,879	11,834	29,325	21,109	50,419	1,089	4,412	39,410
Indiana.....	54	27	3,053	16,191	2,585	5,170	12,474	26,713	25,080	51,720	1,121	2,666	19,950
Illinois.....	166	67	7,917	45,509	6,537	12,982	32,212	68,408	69,082	137,460	3,464	7,456	57,858
Michigan.....	88	41	6,827	42,538	5,555	11,684	31,204	69,285	62,111	131,597	3,009	6,777	46,681
Wisconsin.....	27	9	959	5,139	782	1,653	3,785	8,451	6,357	14,699	729	1,062	11,317
West North Central	86	36	3,358	17,825	2,654	5,385	11,986	33,767	32,370	65,843	2,010	3,177	27,910
Minnesota.....	21	4	465	2,655	403	858	2,088	4,560	3,394	7,908	(1)	464	3,668
Iowa.....	12	5	553	2,658	475	935	1,979	4,697	5,519	10,148	(1)	439	2,415
Missouri.....	36	19	1,951	10,748	1,467	2,985	6,788	21,039	20,208	41,085	1,256	1,922	19,016
Kansas.....	10	7	314	1,385	252	483	933	2,615	2,489	5,056	(1)	283	2,412
South Atlantic....	80	27	3,014	12,957	2,445	4,919	8,821	29,086	37,697	65,949	2,283	2,608	22,779
Maryland.....	18	5	1,020	5,166	751	1,461	3,129	14,456	14,236	28,185	1,073	1,152	12,927
North Carolina....	19	11	1,137	3,912	1,005	2,028	3,005	5,726	11,946	17,432	(1)	856	4,294
Florida.....	29	5	494	2,325	398	863	1,594	4,982	6,405	11,343	(1)	230	2,443
East South Central	52	26	2,439	10,613	1,966	4,121	7,032	26,108	23,390	49,024	1,531	1,616	10,872
Tennessee.....	17	10	833	3,234	650	1,378	2,100	6,407	5,931	12,174	(1)	708	3,372
Alabama.....	17	8	519	2,361	438	936	1,734	7,089	7,506	14,215	(1)	272	3,730
West South Central	74	24	1,700	8,031	1,319	2,907	5,506	20,602	25,981	44,306	700	1,724	12,569
Texas.....	52	18	1,339	6,404	1,056	2,324	4,522	13,308	21,103	34,543	575	978	8,220
Mountain.....	26	4	278	1,367	225	448	863	2,629	3,015	5,634	(1)	196	1,517
Pacific.....	251	71	4,574	25,562	3,678	7,088	18,160	43,176	42,779	88,073	2,387	4,539	36,132
Washington.....	20	7	297	1,764	226	434	1,214	3,238	4,160	7,410	(1)	229	2,653
California.....	212	61	4,071	22,871	3,276	6,391	16,282	38,207	36,996	77,489	2,247	4,205	32,970

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF MISCELLANEOUS FABRICATED WIRE PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Fabricated Wire Products, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3481- --	Miscellaneous fabricated wire products, total.....		(X)	1,389,323	(X)	1,163,232
33151 --	Noninsulated ferrous wire rope, cable and strand:					
34811 --						
34811 --						
34811 --	Made in Industry 3481 and other industries.....		(X)	88,690	(X)	69,280
33151 --	Made in Industries 3312 and 3315.....		(X)	102,269	(X)	94,106
	Total for all industries.....		(X)	190,959	(X)	163,386
34811 11	Steel wire rope and cable.....	Short tons...	205,279	142,110	187,395	125,025
34811 21	Composite strand, rope and cable including wire strands of different metals (except ACSR).....	do.....			8,321	6,155
34811 33	Steel wire strand except wire strand for prestressed concrete, including guard rail cable.....	do.....	71,033	27,952	(NA)	30,352
34811 35	Wire strand for prestressed concrete.....	do.....	36,367	11,872		
34811 00	Noninsulated ferrous wire rope, cable, and strand, not specified by kind.....		(X)	9,025	(X)	1,854
34812 11	Precision mechanical springs.....	Short tons...	120,149	148,013	102,586	108,984
34813 --	Other wire springs:		(X)	236,813	(X)	187,772
34813 11						
34813 11	Upholstery and furniture springs (unassembled):					
	Seat and back springs for motor vehicles.....	Short tons...	185,403	99,122	122,349	76,544
34813 13	Springs for mattresses and bed springs:					
	Quantity reported.....	Short tons...	50,937	19,777	15,132	7,049
	Quantity not reported.....		(X)	2,914	(X)	1,107
34813 17	Spring units for box springs, innerspring mattresses, and dual purpose sleep furniture.....	Short tons...	(NA)	32,958	(NA)	54,261
34813 18	Spring units for upholstered furniture:					
	Quantity reported.....	do.....	19,607	10,069	23,090	10,428
	Quantity not reported.....		(X)	2,502	(X)	3,254
34813 19	Other upholstery and furniture springs (unassembled).....	Short tons...	(NA)	5,398	27,592	3,389
34813 98	Other wire springs:					
	Quantity reported.....	Short tons...	39,633	26,226	28,129	15,578
	Quantity not reported.....		(X)	14,565	(X)	3,916
34813 00	Wire springs, not specified by kind.....		(X)	23,282	(X)	12,246
34814 --	Ferrous wire cloth and other woven ferrous wire products:					
33157 --						
34814 --						
34814 --	Made in Industry 3481 and other industries.....		(X)	46,149	(X)	70,956
33157 --	Made in Industries 3312 and 3315.....		(X)	25,868	(X)	25,943
	Total for all industries.....		(X)	72,017	(X)	96,899
34814 11	Insect wire screening, steel, including stainless steel.....	1,000 sq. ft.	161,933	7,454	217,660	9,791
34814 31	Hardware cloth.....	Short tons...	8,637	6,277	10,162	7,218
34814 61	Industrial wire cloth, steel.....	1,000 sq. ft.	49,129	23,713	48,508	24,675
34814 71	Woven wire netting (poultry, for farm, stucco, etc.).....	Short tons...	(NA)	13,617	52,189	16,460
34814 98	Other wire cloth and woven wire products, including diamond cloth.....		(X)	19,747	(X)	16,679
34814 00	Wire cloth and woven wire products, not specified by kind.....		(X)	1,209	(X)	22,076
34815 --	Nonferrous wire cloth and other woven nonferrous wire products:					
33575 --						
34815 --						
34815 --	Made in Industry 3481 and other industries.....		(X)	20,327	(X)	9,983
33575 --	Made in Industry 3357.....		(X)	44,414	(X)	49,113
	Total for all industries.....		(X)	64,741	(X)	59,096
34815 15	Insect wire screening:					
34815 13						
34815 19						
	Aluminum.....	1,000 sq. ft.	459,123	21,216	305,356	18,239
	Copper and copper-base alloy.....	do.....	(NA)	804	(NA)	2,921
	All other nonferrous metal.....	do.....			(2)	(2)
34815 51	Paper machine wire cloth (Fourdrinier and cylinder).....	do.....	20,299	28,691	22,976	30,902
34815 65	Industrial wire cloth-nonferrous.....	do.....	13,452	10,985	8,496	7,034
34815 00	Nonferrous wire cloth and other woven nonferrous wire products, not specified by kind.....		(X)	3,045	(X)	(4)
34816 --	Fencing and fence gates:					
33156 --						
34816 --						
34816 --	Made in Industry 3481 and other industries.....		(X)	58,478	(X)	55,264
33156 --	Made in Industries 3312 and 3315.....		(X)	52,540	(X)	48,045
	Total for all industries.....		(X)	111,018	(X)	103,309
34816 13	Chain link fencing, excluding posts, gates and fittings.....	Short tons...	107,401	33,536	(NA)	56,277
34816 35	Fence gates, posts and fittings.....	do.....	116,528	38,132		
34816 21	Wire fence, woven and welded.....	do.....	140,119	33,029	(NA)	34,363
34816 71	Ornamental lawn fence.....	do.....	11,003	3,452	19,754	5,695
34816 00	Fencing and fence gates, not specified by kind.....		(X)	2,809	(X)	6,974

See footnotes at end of table.



Table 3.—QUANTITY AND VALUE OF MISCELLANEOUS FABRICATED WIRE PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
34819 --	Other fabricated wire products:					
33159 --						
34819 --	Made in Industry 3481 and other industries.....		(X)	311,363	(X)	262,488
33159 --	Made in Industries 3312 and 3315.....		(X)	189,777	(X)	143,168
	Total for all industries.....		(X)	501,140	(X)	405,656
	Wire chain:					
34819 41	Tire.....	short tons...	19,659	13,980	28,844	20,141
34819 49	Other.....	..do.....	57,085	42,219	47,944	34,553
34819 51	Barbed and twisted steel wire.....	..do.....	111,042	20,420	57,388	12,131
34819 55	Wire bale ties.....	..do.....	87,300	17,447	71,260	15,682
	Welded steel wire fabric:					
34819 61	Concrete reinforcing mesh.....	..do.....	486,860	94,949	516,694	97,539
34819 65	Other welded steel wire fabric.....	..do.....	137,139	36,442	74,392	19,454
34819 71	Wire garment hangers.....	1,000 lbs...	161,381	25,686	146,672	19,517
34819 73	Wire carts, including household, grocery type, and industrial..	.....	(X)	14,457	}	158,475
34819 75	Steel wire cages.....	.....	(X)	9,198		
34819 77	Paper clips.....	.....	(X)	206,037		
34819 98	Other wire products including baskets, guards, florist designs, kitchenware, etc.....	.....	(X)	20,305	(X)	28,164
34819 00	Other fabricated wire products, not specified by kind.....	.....	(X)	64,622	(X)	38,130
34810 00	Miscellaneous fabricated wire products, not specified by kind.....	.....	(X)		(X)	

(NA) Not available. (X) Not applicable. <sup>1</sup>Revised.<sup>2</sup>This quantity was valued at \$61,700 thousand. The remaining \$14,844 thousand was reported without quantity.<sup>3</sup>This quantity was valued at \$2,716 thousand. The remaining \$473 thousand was reported without quantity.<sup>4</sup>For 1958, data for product code 3481519, "Nonferrous metal insect wire screening, other than copper and copper-base alloy, and aluminum," is included with product code 3481498, "Other wire cloth and woven wire products."<sup>5</sup>For 1958, data for product code 3481400, "Wire cloth and woven wire products, not specified by kind," includes data for product code 3481500, "Nonferrous wire cloth and other woven nonferrous wire products, not specified by kind."





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**OFFICIAL BUSINESS**

# 1963 CENSUS OF MANUFACTURES

MC63(P)-34E-2



INDUSTRY SERIES

preliminary  
report

## Metal barrels, drums and pails

SIC Code 3491

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Metal Barrels, Drums and Pails Industry shipped products valued at \$303 million, an increase of 21 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 10 percent from 1958 to a total of 10 thousand employees in 1963. Value added by manufacture amounted to \$120 million in 1963, an increase of 24 percent from 1958.

The Metal Barrels, Drums and Pails Industry includes establishments engaged primarily in the manufacture of ferrous and nonferrous shipping barrels, drums, kegs and pails.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE METAL BARRELS, DRUMS AND PAILS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3491)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	143	93	10,488	66,565	8,472	17,471	49,091	119,520	183,762	303,222	6,404
1958 <sup>2</sup> .....	126	75	9,496	53,200	7,584	15,244	38,766	96,171	153,135	250,280	5,332
1954 <sup>3</sup> .....	93	63	10,585	48,501	8,687	17,924	37,058	85,667	137,670	224,920	5,860
1947 <sup>3</sup> .....	71	53	10,927	31,368	9,341	18,483	24,955	64,186	109,086	173,272	3,607
1939 <sup>3</sup> .....	64	(NA)	6,964	9,545	6,072	(NA)	7,360	16,838	32,328	49,166	(NA)

(NA) Not available. <sup>1</sup>Revised.

<sup>2</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

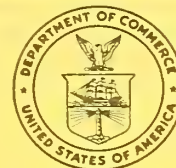
<sup>3</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>4</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Metal Barrels, Drums and Pails Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Metal Barrels, Drums and Pails Industry amounted to \$303 million. Of this total, \$30 million were products primary to other industries; and \$8 million were receipts for miscellaneous activities. The industry shipments of primary products represented 90 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 92 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$307 million of metal barrels, drums and pails were shipped by all producers of these products. Of this total, \$265 million, or 86 percent, were shipped by plants classified in Industry 3491, Metal Barrels, Drums and Pails while the remainder was shipped by plants classified in other industries. The comparable ratio for 1958 was also 86 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965



through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE METAL BARRELS, DRUMS AND PAILS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3491)

Geographic area	1963											1958 <sup>F</sup>	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	143	93	10,488	66,565	8,472	17,471	49,091	119,520	183,762	303,222	6,404	9,496	96,171
Northeast.....	44	28	3,136	19,986	2,558	5,456	14,711	36,490	54,026	90,171	1,622	2,599	25,970
New York.....	13	4	417	2,248	362	749	1,852	3,881	6,654	10,373	( <sup>1</sup> )	372	2,903
New Jersey.....	13	13	1,921	12,856	1,530	3,220	9,219	23,447	31,569	54,937	1,128	1,272	14,073
Pennsylvania.....	12	9	677	4,160	575	1,286	3,184	7,943	13,398	21,226	( <sup>1</sup> )	828	8,109
North Central.....	47	34	4,522	29,554	3,623	7,465	21,547	51,697	67,933	120,493	2,775	4,249	39,016
Ohio.....	15	14	1,571	9,942	1,320	2,498	7,698	15,152	22,912	38,200	808	1,647	13,108
Illinois.....	16	12	2,082	14,768	1,629	3,596	10,481	27,016	34,130	61,037	1,483	2,110	21,857
South.....	37	21	1,774	10,587	1,449	3,008	7,906	22,216	42,255	64,118	795	1,746	21,742
Texas.....	9	6	709	4,400	562	1,128	3,218	8,830	16,638	25,315	( <sup>1</sup> )	571	8,468
West.....	15	10	1,056	6,438	842	1,542	4,927	9,117	19,548	28,440	1,212	902	9,443
California.....	11	9	1,000	6,119	794	1,457	4,617	8,367	18,265	26,415	1,185	879	9,254

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>F</sup>Revised.

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF METAL BARRELS, DRUMS AND PAILS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Metal Barrels, Drums and Pails Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3491- --	Metal barrels, drums, and pails, total.....	(X)	307,339	(X)	258,953
34911 --	Steel shipping pails (12 gallon capacity and under): <sup>1</sup>				
34911 11	Reported in census of manufactures.....	(X)	87,186	(X)	80,229
	Reported on Monthly Form M34K.....	79,073	(NA)	72,179	(NA)
	Detailed figures by type of pail from monthly survey:				
34911 15	Tapered pails, all capacities, all gauges.....	16,207	(NA)	9,039	(NA)
34911 19	Dome top pails, all capacities, all gauges.....	4,606	(NA)	4,143	(NA)
	Other, types.....	58,260	(NA)	58,997	(NA)
	For sale.....	55,307	(NA)	57,146	(NA)
34911 21	1 to 2 gallon, all gauges.....	2,426	(NA)	2,957	(NA)
34911 25	Over 2 gallon, up to but excluding 5 gallon, all gauges.....	3,196	(NA)	3,564	(NA)
34911 29	5 gallon, 24 gauge and heavier.....	13,711	(NA)	20,152	(NA)
34911 31	5 gallon, 26 gauge.....	24,190	(NA)	23,261	(NA)
34911 35	5 gallon, 28 gauge and lighter.....	7,491	(NA)	2,304	(NA)
34911 39	Over 5 gallon up to and including 7 gallon, all gauges 11-1/4" diameter or less.....	2,711	(NA)	3,303	(NA)
34911 41	7 gallon, up to and including 12 gallon all gauges, all diameters over 11-1/4".....	1,582	(NA)	1,605	(NA)
	For own use.....	2,953	(NA)	1,851	(NA)
34911 21-35	1 to 5 gallon capacity.....		(NA)		(NA)
34911 39	Over 5 gallon, up to and including 7 gallon, all gauges, 11-1/4" diameter or less.....	2,953	(NA)	1,302	(NA)
34911 41	7 to 12 gallon capacity, diameter over 11-1/4".....		(NA)	549	(NA)
34912 --	Steel shipping barrels and drums (over 12 gallon capacity): <sup>2</sup>				
34912 10	Reported in the census of manufactures.....	(X)	191,444	(X)	162,375
	Reported on Monthly Form M34K.....	32,297	(NA)	31,491	(NA)
	Detailed data by size of container from monthly surveys:				
	Heavy type.....	20,057	(NA)	19,018	(NA)
	Light head liquid type.....	16,860	(NA)	15,273	(NA)
	55 gallon capacity:				
34912 11	16 gauge and heavier.....	484	(NA)	767	(NA)
34912 15	18 gauge.....	10,311	(NA)	12,065	(NA)
34912 21	19 gauge and lighter (except those with 20 gauge body and 18 gauge head).....	89	(NA)	493	(NA)
34912 23	20 gauge body and 18 gauge head.....	3,713	(NA)		(NA)
34912 25	30 to 33 gallon, all gauges.....	1,225	(NA)	1,036	(NA)
34912 29	All other capacities, all gauges.....	1,038	(NA)	912	(NA)
	Full open head type.....	3,196	(NA)	3,745	(NA)
34912 31	55 gallon and larger, 18 gauge and heavier.....	2,135	(NA)	2,527	(NA)
34912 35	19 and 20 gauge.....	168	(NA)	93	(NA)
34912 39	All other capacities, 20 gauge and heavier.....	893	(NA)	1,125	(NA)
	Light type (full open head or partial opening).....	9,234	(NA)	9,315	(NA)
	For sale.....	8,557	(NA)	7,178	(NA)
34912 41	Welded side seam construction.....	5,262	(NA)	3,276	(NA)
34912 46	Over 30 gallon, 22 to 26 gauge.....	2,163	(NA)	1,141	(NA)
34912 47	30 gallon and smaller, 22 to 26 gauge.....	2,057	(NA)	1,546	(NA)
34912 51	All capacities, 28 to 30 gauge.....	1,042	(NA)	589	(NA)
34912 51	Lock side seam construction.....	3,296	(NA)	3,902	(NA)
34912 41-51	For own use.....	676	(NA)	2,137	(NA)
34912 61	Grease drums.....	3,006	(NA)	3,158	(NA)
34913 --	All other metal barrels, including beer barrels and fluid milk shipping containers.....	(X)	26,366	(X)	14,723
34913 12	All other metal barrels, including parts for metal barrels and pails..	(X)	20,057	(X)	10,137
34913 31	Metal fluid milk shipping and delivery containers (except crates)....	(NA)	6,309	(NA)	4,586
34910 00	Metal barrels, drums, and pails, not specified by kind.....	(X)	2,343	(X)	1,626

(NA) Not available. (X) Not applicable.

<sup>1</sup>Steel shipping packages, kegs, and pails are defined as single-walled shipping containers with a range of capacity from 1 to 12 gallons inclusive, constructed of steel sheet of 29 gauge and heavier. This definition does not include tin cans (packers' cans, general line cans, and beer cans), terneplate oil containers, fluid milk shipping containers, ice cream cans, gas cylinders, beer barrels, reconditioned barrels, and drums, or containers not commercially usable in the transportation of commodities.<sup>2</sup>Steel shipping barrels and drums are defined as single-walled cylindrical or bilged shipping containers, with a range of capacity from 12 to 132 gallons, constructed of steel. This definition does not include tin cans (packers' cans, general line cans, and beer cans), terneplate oil containers, high and low pressure gas steel cylinders, fluid milk shipping containers, ice cream cans, or containers not commercially usable in the transportation of commodities.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34E-3



preliminary  
report

## Safes and vaults

SIC Code 3492

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Safes and Vaults Industry shipped products valued at \$78 million, an increase of 33 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 4 percent from 1958 and an increase of 1 percent from 1962 to a total of 3.3 thousand employees in 1963. Value added by manufacture amounted to \$56 million in 1963, an increase of 42 percent from 1958 and 10 percent from 1962.

The Safes and Vaults Industry includes establishments engaged primarily in the manufacture of fire and burglary resistive steel safes and vaults (except Concrete Grave Vaults, Industry 3272, and Metal Grave Vaults, Industry 3988) and similar fire or burglary resistive products.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE SAFES AND VAULTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3492)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	32	15	3,346	21,782	2,304	4,817	14,042	56,119	24,269	77,967	1,792	(X)
1962.....	(NA)	(NA)	3,300	20,825	2,070	4,390	12,323	50,901	20,559	71,254	934	3
1961.....	(NA)	(NA)	3,383	20,183	2,169	4,456	12,231	49,240	20,677	69,546	1,343	2
1960.....	(NA)	(NA)	3,581	19,273	2,368	4,661	12,253	46,614	20,106	66,183	534	2
1959.....	(NA)	(NA)	3,724	20,062	2,391	4,838	12,577	44,202	19,429	62,257	1,021	1
1958.....	33	12	3,495	15,843	2,323	4,417	10,722	39,537	18,514	58,790	683	(X)
1954 <sup>3</sup> .....	26	10	3,442	15,030	2,581	5,050	10,341	29,583	12,398	41,758	714	(X)
1947 <sup>3</sup> .....	26	(NA)	3,754	10,117	3,004	6,035	7,437	19,434	9,782	29,216	580	(X)
1939 <sup>3</sup> .....	16	(NA)	1,558	2,286	1,236	(NA)	1,589	3,671	2,413	6,084	(NA)	(X)

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Safes and Vaults Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Safes and Vaults Industry amounted to \$78 million. Of this total, \$13 million were products primary to other industries; and \$13 million were receipts for miscellaneous activities. The industry shipments of primary products represented 80 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 82 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$58 million of safes and vaults were shipped by all producers of these products. Of this total, \$52 million, or 90 percent, were shipped by plants classified in Industry 3492, Safes and Vaults, while the remainder was shipped by plants classified in other industries. The comparable 1958 ratio was 97 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE SAFES AND VAULTS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(Preliminary State and regional detail not available without further review)

Table 3.--QUANTITY AND VALUE OF SAFES AND VAULTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Safes and Vaults Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product Code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number)	Value (\$1,000)	Quantity (number)	Value (\$1,000)
3492- --	Safes and vaults, total.....	(X)	57,533	(X)	45,088
	Safes and chests:				
	Fire resistive safes and chests: <sup>1</sup>				
34920 13	One-, two-, and four-hour types.....	80,950	13,264	64,114	10,323
34920 17	All other fire-resistive types.....				
34920 21	Burglary-resistive safes and chests: <sup>1</sup>				
	Quantity reported.....			15,694	3,616
	Quantity not reported.....			(X)	626
34920 41	Safe deposit boxes.....				
	Quantity reported.....			291,403	7,038
	Quantity not reported.....			(X)	1,975
34920 98	All other bank and security vaults and equipment, including bank security lockers, night depositories, security equipment for drive-in windows and similar equipment and signaling and alarm equipment when sold together with bank equipment and other interior equipment for safes and chests....	(X)	44,269	(X)	18,880
34920 00	Safes and vaults, not specified by kind.....				
				(X)	2,630

(X) Not applicable.

<sup>1</sup>Safes and chests are shown as fire-resistive or burglary-resistive, depending on the primary purpose for which they are built.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
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OFFICIAL BUSINESS



# 1963 CENSUS OF MANUFACTURES

MC63(P)-34E-4



INDUSTRY SERIES

preliminary  
report

Steel springs

SIC Code 3493

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Steel Springs Industry shipped products valued at \$158 million, an increase of 31 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 7 percent from 1958 and 11 percent from 1962 to a total of 6 thousand employees in 1963. Value added by manufacture amounted to \$69 million in 1963, an increase of 28 percent from 1958 but a decrease of 10 percent from 1962.

The Steel Springs Industry includes establishments engaged primarily in the manufacture of leaf springs, hot wound springs, and coiled flat springs. Establishments primarily engaged in manufacturing wire springs are classified in Industry 3481, and rolling mills manufacturing steel springs in Industry 3312.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE STEEL SPRINGS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3493)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	96	49	6,287	41,321	5,110	10,633	31,398	69,316	89,063	157,704	1,956	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	7,036	45,680	5,489	11,573	33,717	77,303	88,604	165,132	2,954	4
1961 <sup>2</sup> .....	(NA)	(NA)	6,356	38,570	4,891	9,901	27,720	60,508	70,856	131,091	(2,027)	3
1960 <sup>2</sup> .....	(NA)	(NA)	6,629	40,337	5,235	10,718	29,672	65,442	79,282	143,274	2,626	3
1959 <sup>2</sup> .....	(NA)	(NA)	7,078	40,824	5,592	11,045	29,535	67,644	84,194	150,398	(2,140)	1
1958.....	90	53	6,758	35,607	5,242	9,978	25,499	54,135	65,639	120,525	1,721	(X)
1954 <sup>3</sup> .....	101	43	7,078	33,304	5,650	11,429	24,510	50,768	70,853	122,928	36,127	(X)
1947 <sup>3</sup> .....	81	(NA)	7,760	24,938	6,747	14,135	20,233	45,876	46,770	92,646	2,285	(X)
1939 <sup>3</sup> .....	53	(NA)	3,591	5,739	2,940	(NA)	4,277	10,249	12,795	23,044	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

July 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Steel Springs Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Steel Springs Industry amounted to \$158 million. Of this total, \$16 million were products primary to other industries; and \$7 million were receipts for miscellaneous activities. The industry shipments of primary products represent 85 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 81 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$201 million of steel springs were shipped by all producers of these products. Of this total, \$134 million, or 67 percent, were shipped by plants classified in Industry 3493, Steel Springs, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 69.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in



## 1963 CENSUS OF MANUFACTURES

3

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted

every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE STEEL SPRINGS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC 3493)													
Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expendi- tures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)
United States, total.....	96	49	6,287	41,321	5,110	10,633	31,398	69,316	89,063	157,704	1,956	6,758	54,135
Middle Atlantic...	22	16	1,872	12,568	1,543	3,207	9,627	22,894	27,681	50,054	779	2,041	15,329
New York .....	7	4	525	3,889	448	972	3,152	6,665	10,742	17,188	(1)	439	3,302
East North Central	34	22	3,591	24,167	2,960	6,175	18,854	38,043	54,842	92,675	1,010	2,526	21,160
Illinois.....	6	3	646	4,210	506	1,036	3,148	6,285	9,696	16,024	(1)	527	5,365
Michigan.....	17	12	1,629	11,196	1,353	2,876	8,831	19,595	25,577	45,038	(1)	917	7,327
Pacific.....	18	4	454	2,791	308	621	1,560	4,829	4,182	8,994	(1)	449	3,809
California.....	13	3	387	2,396	265	533	1,315	4,076	3,632	7,699	(1)	376	3,197
All other divisions.....	22	7	370	1,795	299	630	1,357	3,550	2,358	5,981	(1)	1,742	13,837

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF STEEL SPRINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Steel Springs Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Short tons)	Value (\$1,000)	Quantity (Short tons)	Value (\$1,000)
3493- --	Steel springs, total.....	(X)	201,075	(X)	133,143
	Helical springs, hot wound:				
	Automotive coil springs:				
34930 11	Shipments to motor vehicle manufacturers (auto, truck, bus, trailer, etc.).....	115,315	33,716	47,642	13,887
34930 13	Shipments to other customers.....	12,736	3,837	7,281	2,624
34930 15	Locomotive and railroad car.....	32,137	10,277	22,831	7,133
34930 19	Other helical springs, hot wound.....	16,127	8,200	5,596	2,304
	Leaf springs:				
	Automotive (auto, truck, bus, trailer, etc.):				
34930 51	Shipments to motor vehicle manufacturers.....	256,739	91,519	185,036	60,125
34930 59	Shipments to other customers.....	31,176	16,352	30,676	12,828
34930 63	Leaf springs for tractors, farm equipment, locomotive and railroad cars and other heavy equipment.....	6,678	2,126	9,910	3,326
34930 71	Flat springs made of sheet and strip.....	(X)	17,576	(X)	19,502
34930 98	Other steel springs, including torsion bar springs, except wire springs..	(X)	6,954	(X)	3,123
34930 00	Steel springs, except wire, not specified by kind.....	(X)	10,518	(X)	8,291

(X) Not applicable.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34E-5



INDUSTRY SERIES

preliminary  
report

## Valves and pipe fittings

SIC Code 3494

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Valves and Pipe Fittings Industry shipped products valued at \$1,573 million, an increase of 24 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 4 percent from 1958 but a 2 percent decrease from 1962 to a total of 80 thousand employees in 1963. Value added by manufacture amounted to \$929 million in 1963, an

increase of 27 percent from 1958 and practically equal to 1962.

The Valves and Pipe Fittings Industry includes establishments engaged primarily in the manufacture of valves for controlling the flow of liquids or gases in pipe and mains, and for machinery. Establishments primarily engaged in manufacturing faucets, spigots, and similar plumbers' brass goods and fittings are classified in Industry 3432.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957

Table 1.—GENERAL STATISTICS FOR THE VALVES AND PIPE FITTINGS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3494)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	641	369	79,756	496,382	57,552	115,980	318,739	929,376	646,826	1,572,869	38,702	(X)
1962.....	(NA)	(NA)	81,278	491,448	57,933	116,414	311,696	932,953	655,184	1,570,548	38,351	3
1961.....	(NA)	(NA)	76,358	446,371	54,199	107,417	277,651	820,905	616,418	1,418,545	29,911	2
1960.....	(NA)	(NA)	74,987	424,565	54,205	105,682	273,009	768,973	577,541	1,343,254	32,004	2
1959.....	(NA)	(NA)	75,980	424,354	56,096	110,748	280,416	820,939	573,390	1,357,093	35,066	1
1958.....	590	347	76,844	410,225	55,930	110,634	269,608	732,618	512,950	1,263,960	34,108	(X)
1957.....	556	314	75,016	333,213	58,425	115,312	235,730	579,006	416,111	989,463	24,869	(X)
1956.....	452	(NA)	79,713	237,921	65,522	132,012	183,763	392,090	241,681	633,771	20,877	(X)
1955.....	298	(NA)	(NA)	(NA)	32,159	(NA)	43,936	107,511	57,416	164,927	(NA)	(X)

(NA) Not available.

(X) Not applicable.

<sup>†</sup> Revised.

<sup>1</sup> Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup> The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup> Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of

products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Valves and Pipe Fittings Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Valves and Pipe Fittings Industry amounted to \$1,573 million. Of this total, \$207 million were products primary to other industries; and \$73 million were receipts for miscellaneous activities. The industry shipments of primary products represented 86 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 88 percent (revised).

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$1,510 million of Valves and Pipe Fittings were shipped by all producers of these products. Of this total, \$1,293 million, or 86 percent, were shipped by plants classified in Industry 3494, Valves and Pipe Fittings while the remainder was shipped by plants classified in other industries. The comparable 1958 ratio was 88 percent.

### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also



their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.

Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE VALVES AND PIPE FITTINGS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3494)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	641	369	79,756	496,382	57,552	115,980	318,739	929,376	646,826	1,572,869	38,702	76,844	732,618
New England.....	68	37	8,730	52,115	5,918	12,120	32,024	87,964	60,439	152,990	4,320	9,594	76,600
Massachusetts.....	44	21	5,101	31,101	3,287	6,834	18,133	49,675	36,388	88,039	1,930	5,439	44,434
Connecticut.....	13	9	2,222	12,889	1,573	3,069	8,229	22,183	13,340	37,725	1,853	2,811	19,506
Middle Atlantic...	165	92	18,778	113,800	13,370	26,811	73,328	214,305	131,207	342,891	10,143	16,659	155,842
New York.....	45	21	4,166	23,050	3,124	6,492	16,370	41,282	26,212	66,579	4,329	3,390	31,387
New Jersey.....	49	26	3,890	25,870	2,449	5,013	13,993	49,041	26,449	74,353	1,570	3,357	32,897
Pennsylvania.....	71	45	10,722	64,880	7,797	15,306	42,965	123,982	78,546	201,959	4,244	9,912	91,558
East North Central.....	172	112	29,497	191,619	21,642	42,809	124,117	337,404	259,263	594,601	11,746	32,260	300,574
Ohio.....	57	35	9,471	59,070	7,284	14,751	40,418	103,383	68,419	170,878	4,315	8,166	81,059
Indiana.....	22	18	3,767	23,254	2,770	5,301	14,753	45,753	36,981	81,435	1,037	2,945	35,696
Illinois.....	54	34	10,433	70,647	7,363	14,279	43,928	124,352	90,929	216,884	3,561	15,289	136,109
West North Central.....	27	15	4,431	26,705	3,053	6,435	17,027	71,187	38,593	106,350	1,694	2,844	37,354
Missouri.....	9	5	1,453	9,213	1,007	2,016	5,511	26,053	10,969	33,635	(1)	600	5,715
South Atlantic....	23	12	1,432	6,805	1,149	2,331	4,987	11,444	8,583	19,991	677	1,524	13,203
East South Central.....	18	11	6,046	34,423	4,899	9,182	25,455	67,427	48,784	115,744	2,617	4,998	50,943
Alabama.....	6	4	2,789	14,758	2,397	4,131	10,910	29,341	15,622	42,704	788	2,294	19,406
West South Central.....	64	36	4,580	26,688	3,168	6,642	16,215	57,948	43,199	102,898	1,822	3,935	45,235
Texas.....	38	22	3,186	19,407	2,155	4,522	11,369	42,393	35,196	77,817	1,439	3,034	35,417
Mountain.....	9	5	619	4,216	414	849	2,271	9,497	8,740	17,426	511	515	5,368
Pacific.....	95	49	5,643	40,011	3,939	8,801	23,315	72,200	48,018	119,978	5,172	4,515	47,499
California.....	87	47	5,481	38,940	3,819	8,549	22,625	70,510	45,998	116,118	5,104	4,394	45,982

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3A.—QUANTITY AND VALUE OF VALVES AND PIPE FITTINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Valves and Pipe Fittings Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3494- --	Valves and pipe fittings (except plumbers' brass goods and fittings), total.....	.....	(X)	1,510,374	(X)	1,193,012
34941 --	Metal valves for piping systems (except plumbing and heating valves).....	.....	(X)	686,918	(X)	559,840
	Gates, globes, angles, checks, butterflies, lubricated plugs, codes, stop and checks, cross, etc. (except automatic regulating valves):					
34941 11	Iron (all pressures) (includes fire hydrants).....	Short tons..	147,243	163,167	150,272	137,406
34941 13	Steel (carbon and alloy) (all pressures).....	..do.....	66,536	185,885	60,808	175,727
34941 15	Brass and bronze (125 lb. W.S.P. and over).....	..do.....	32,299	95,603	21,629	75,032
34941 17	Aluminum.....	..do.....	515	3,149	(NA)	(NA)
	Pop safety valves and relief valves (over 15 lb. W.S.P.):					
34941 31	Iron.....	..do.....	1,190	2,397	1,046	2,422
34941 33	Steel (carbon and alloy).....	..do.....	6,054	24,701	3,632	11,404
34941 35	Brass and bronze.....	..do.....	3,131	12,671	1,730	6,174
	Automatic regulating valves:					
34941 51	Diaphragm - actuated.....	1,000 units.	(NA)	55,911	(NA)	71,311
34941 53	Float - actuated (include float cages).....	..do.....	(NA)	5,165	(NA)	5,414
34941 54	Solenoid - actuated.....	..do.....	1,463	25,116	(NA)	51,988
34941 55	Other automatic regulating valves.....	..do.....	(NA)	85,650	(NA)	8,864
34941 57	Compressed gas cylinder valves.....	..do.....	(NA)	13,105	(NA)	8,864
34941 00	Metal valves for piping systems, not specified by kind.....	..do.....	(X)	14,398	(X)	14,098
34942 --	Metal fittings and unions for piping systems:					
	Fittings, flanges, and unions.....	..do.....	(X)	418,363	(X)	r 374,233
34942 11	Gray iron.....	Short tons..	77,198	34,910	r 79,399	r 31,621
	Malleable iron:					
34942 13	Fittings and flanges.....	..do.....	82,134	56,758	r 70,354	r 50,033
34942 15	Unions and union fittings.....	..do.....	20,159	24,168	r 17,223	r 14,074
34942 21	Cast carbon and alloy steel.....	..do.....	7,143	10,350		
	Forged carbon and alloy steel:					
34942 23	Fittings and unions.....	..do.....	53,554	62,199	r 103,778	r 111,143
34942 25	Flanges.....	..do.....	39,924	33,376		
34942 27	Fittings, welding type.....	..do.....	42,830	34,158		
34942 18	Cast and wrought copper and copper - brass alloy.....	..do.....	49,710	86,988	r 40,201	r 68,555
34942 19	Aluminum.....	..do.....	454	1,137	(NA)	(NA)
	Steam traps (over 15 lb. W.S.P.):					
34942 51	Thermostatic; and combination float and thermostatic.....	1,000 units.	(NA)	7,464	697	6,355
34942 55	Mechanical.....	..do.....	368	5,002	330	4,241
34942 98	Other metal piping specialties for piping systems (except plumbing and heating valves).....	.....	(X)	55,968	(X)	r 88,211
34942 00	Metal fittings and unions for piping systems, not specified by kind.....	.....	(X)	5,885	(X)	-
34943 --	Plumbing and heating valves and specialties (except plumbers' brass goods).					
34943 11	Gates, globes, angles, checks, butterflies, lubricated plugs, cocks, stop and checks, cross, etc.; brass and bronze valves (under 125 W.S.P.)	Short tons..	10,093	26,549	17,540	38,250
34943 51	Steam traps (15 lb. W.S.P. and under).....	..do.....	(X)	3,577	(X)	4,087
34943 98	Other metal plumbing and heating valves and specialties, including pop safety valves and relief valves - 15 lb. W.S.P. and under.....	.....	(X)	48,632	(X)	41,649
34943 00	Plumbing and heating valves and specialties, except plumbers' brass goods and fittings, not specified by kind.....	.....	(X)	4,614	(X)	3,124
34944 --	Other metal valves and fittings, except plumbers' brass goods and fittings.					
34944 71	Pipe hangers and pipe supports.....	.....	(X)	296,249	(X)	151,564
34944 81	Valves for power transfer (pneumatic or hydraulic) such as for directional control, pressure control, and flow or volume control.....	.....	(X)	27,520	(X)	13,497
34944 98	Other metal valves and fittings except plumbers' brass goods and fittings.....	.....	(X)	184,901	(X)	138,067
34944 00	Other metal valves and fittings, except plumbers' brass goods and fittings, not specified by kind.....	.....	(X)	77,732	(X)	-
34940 00	Valves and fittings, except plumbers' brass goods and fittings, not specified by kind.....	.....	(X)	6,096	(X)	-
			(X)	25,472	(X)	20,265

- Represents zero.

(NA) Not available.

(X) Not applicable.

r Revised.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR VALVE AND PIPE FITTINGS (EXCEPT PLUMBERS' BRASS GOODS AND FITTINGS) SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3494-	Valve and pipe fittings (except plumbers' brass goods and fittings).....1963...	129	127
	.....1958...	103	125
34941	Metal valves for piping systems (except plumbing and heating valves).....1963...	117	140
	.....1958	98	136
34942	Metal fittings and unions for pipe fittings.....1963...	118	112
	.....1958...	103	111



# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.



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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34E-6



preliminary  
report

## INDUSTRY SERIES

### Collapsible tubes

SIC Code 3496

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Collapsible Tubes Industry had total shipments valued at \$50 million, an increase of 12 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 4 percent from 1958 but a decrease of 2 percent from 1962 to a total of 4.0 thousand employees in 1963. Value added by manufacture amounted to \$30 million in 1963, an increase of 18 percent from 1958 and 3 percent from 1962.

The Collapsible Tubes Industry includes establishments engaged primarily in the manufacture of collapsible tubes defined as cylindrical containers for viscous products, made of thin flexible metal, usually of tin, tin lined lead, lead, lead-tin alloy or aluminum, with integral shoulder and neck, provided with an appropriate size opening in the throat, and usually with a screw cap made of plastic material for closure over the neck.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.--GENERAL STATISTICS FOR THE COLLAPSIBLE TUBES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3496)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963 <sup>3</sup> .....	24	19	3,984	18,804	3,540	6,923	14,770	29,773	20,396	50,238	1,925	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	4,062	18,362	3,632	7,222	16,309	28,854	19,172	47,630	2,054	3
1961 <sup>2</sup> .....	(NA)	(NA)	4,177	18,058	3,433	7,349	16,204	27,395	20,544	47,977	842	2
1960 <sup>2</sup> .....	(NA)	(NA)	3,955	17,539	3,493	7,145	15,616	28,877	19,867	48,625	1,244	2
1959 <sup>2</sup> .....	(NA)	(NA)	4,039	17,317	3,563	7,250	15,355	28,443	20,836	48,673	2,060	1
1958.....	22	20	3,837	16,118	3,367	6,852	12,453	25,257	19,183	44,700	1,572	(X)
1954 <sup>3</sup> .....	21	18	4,302	14,934	3,856	7,643	11,783	22,429	15,707	38,067	1,369	(X)
1947 <sup>3</sup> .....	19	(NA)	3,866	9,415	3,475	6,886	7,205	16,942	10,055	26,997	1,477	(X)
1939 <sup>3</sup> .....	14	(NA)	2,195	2,695	1,933	(NA)	1,903	4,536	4,936	9,472	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Collapsible Tubes Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Collapsible Tubes Industry amounted to \$50 million. Of this total \$5 million were products primary to other industries; and \$1 million were receipts for miscellaneous activities. The industry shipments of primary products represented 90 percent of the total manufactured products shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$44 million of collapsible tubes were shipped by all producers of these products. Of this total, \$44 million, or 100 percent, were shipped by plants classified in Industry 3496, Collapsible Tubes. The 1958 ratio was also 100 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports



will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE COLLAPSIBLE TUBES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3496)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	24	19	3,984	18,804	3,540	6,923	14,770	29,773	20,396	50,238	1,925	3,837	25,257
Northeast.....	12	11	2,659	12,399	2,380	4,620	9,841	17,815	12,332	29,999	1,445	2,442	15,213
New Jersey.....	7	7	1,528	7,518	1,363	2,697	6,042	11,514	8,760	20,100	1,211	1,481	10,303
North Central.....	7	4	355	1,532	298	625	1,087	2,860	1,723	4,567	( <sup>1</sup> )	300	2,027
South and West....	5	4	970	4,873	862	1,678	3,842	9,098	6,341	15,672	( <sup>1</sup> )	1,095	8,017

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.--QUANTITY AND VALUE OF COLLAPSIBLE TUBES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Collapsible Tubes Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments".)

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 gross)	Value (\$1,000)	Quantity (1,000 gross)	Value (\$1,000)
3496- --	Collapsible tubes, total.....	(X)	44,216	(X)	37,172
34960 11	Aluminum.....	4,564	22,594	4,035	21,339
34960 12	Lead.....	2,980	14,460	1,992	9,429
34960 13	Tin.....	798	5,856	746	3,902
34960 29	Other, including tin-coated and tin-lead alloy.....	(X)	656	(X)	1,025
34960-00	Collapsible tubes, not specified by kind.....	(X)	650	(X)	1,477

(X) Not applicable.



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# 1963 CENSUS OF MANUFACTURES



MC63(P)-34E-7

INDUSTRY SERIES

preliminary  
report

## Metal foil and leaf

SIC Code 3497

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Metal Foil and Leaf Industry had total shipments valued at \$184 million, an increase of 92 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 46 percent from 1958 to a total of 5.1 thousand employees in 1963. Value added by manufacture amounted to \$64 million in 1963, an increase of 68 percent from 1958.

The Metal Foil and Leaf Industry includes establishments engaged primarily in the manufacture of gold, silver, tin, and other metal foil (including converted metal foil) and leaf. Establishments primarily engaged in manufacturing plain aluminum foil are classified in Industry 3352.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE METAL FOIL AND LEAF INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3497)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	65	39	5,113	33,132	3,775	7,947	21,970	64,339	120,476	183,967	6,492
1958 <sup>3</sup> .....	66	31	3,500	18,709	2,522	5,149	12,118	38,063	59,165	96,438	3,296

<sup>1</sup>Revised.

<sup>2</sup>Includes expenditures for expenditures for plants under construction but not in operation.

<sup>3</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS,



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Metal Foil and Leaf Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Metal Foil and Leaf Industry amounted to \$184 million. Of this total, \$31 million were products primary to other industries; and \$8 million were receipts for miscellaneous activities. The industry shipments of primary products represented 82 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 83 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$312 million of Metal Foil and Leaf were shipped by all producers of these products. Of this total, \$144 million, or 46 percent, were shipped by plants classified in Industry 3497, Metal Foil and Leaf while the remainder was shipped by plants classified in other industries. The comparable ratio in 1958 was 52 percent (revised).

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

3

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE METAL FOIL AND LEAF INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3497)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employ-ees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)
United States, total.....	65	39	5,113	33,132	3,775	7,947	21,970	64,339	120,476	183,967	6,492	3,500	38,063
Middle Atlantic...	24	9	620	3,969	491	1,031	2,691	7,906	13,549	21,084	732	655	6,717
East North Central	12	8	1,454	9,867	1,054	2,209	6,358	21,693	34,403	55,823	2,229	1,193	12,694
Pacific.....	7	5	453	3,196	277	566	1,670	4,593	6,439	10,788	(1)	521	6,233
All other divisions.....	22	17	2,586	16,100	1,953	4,141	11,251	30,147	66,085	96,272	3,106	1,131	12,419

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>r</sup>Revised.

<sup>1</sup>Less than \$500 thousand.

Table 3.--QUANTITY AND VALUE OF METAL FOIL AND LEAF SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Metal Foil and Leaf Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3497- --	Metal foil and leaf (except plain aluminum foil), total.....	.....	(X)	312,123	(X)	<sup>r</sup> 145,484
	Foil:					
34970 23	Laminated or coated foil in rolls and sheet, plain or printed: Foil laminated and/or coated with polyethylene <sup>1</sup> .....	1,000 lbs metal content..				
34970 25	Foil laminated and/or coated with materials other than polyethylene <sup>1</sup> ..	...do....	6,942 51,718	9,618 67,212	} 216,225	} 217,497
34970 32	Converted aluminum foil products (foil only) (except bags and liners): <sup>3</sup>	...do....	98,673	82,600		
34970 33	Household, institutional and freezer foil.....	...do....	56,229	36,984	} 109,246	} <sup>r</sup> 109,155
34970 34	Rigid and semirigid containers.....	...do....	( <sup>4</sup> )	( <sup>4</sup> )		
34970 35	Gift wrap.....	...do....	(NA)	16,196		
	Other foil products.....	...do....				
	Converted aluminum foil products made of foil laminated to paper, polyethylene, etc. (except bags and liners): <sup>3</sup>	...do....	<sup>4</sup> 9,277	<sup>4</sup> 9,602	} 30,945	} 30,336
34970 36	Gift wrap.....	...do....	13,852	30,945		
34970 31	Wrappers and wraps (bread, confections, tobacco, etc.).....	...do....	29,119	30,336		
34970 38	Other.....	...do....				
34970 47	Other foil, including composition (combination of two or more metals)...	...do....	(X)	9,987	(X)	5,074
	Leaf:					
34970 51	Gold leaf.....	.....	(X)	5,403	(X)	4,713
34970 57	Other leaf.....	.....	(X)	10,249	(X)	4,704
34970 00	Metal foil and leaf, not specified by kind.....	.....	(X)	2,991	(X)	4,341

(NA) Not available. (X) Not applicable. <sup>r</sup>Revised.<sup>1</sup>These figures are not comparable to data published in Current Industrial Reports Series M26F, "Converted Flexible Packaging Products," due to inconsistencies in reporting on the two surveys. It is planned at a later date to resolve these differences.<sup>2</sup>In 1958 these data are limited to laminated foil made from purchased aluminum foil.<sup>3</sup>More detailed data on converted aluminum foil are available in Current Industrial Reports Series M34P, "Aluminum Foil Converted." That report contains data on poundages of aluminum foil converted by end-use. However, it is not possible to precisely compare the data in this industry with data in the annual Current Industrial Report. Some of the products for which aluminum foil consumption is reported in the annual survey are produced for use by the same company to package a commodity. In such cases, the converted aluminum foil product is not included in this industry but is included as a portion of the value of the packaged commodity.<sup>4</sup>Data for product code 3497034 included with product code 3497036.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-34E-8



## INDUSTRY SERIES

**preliminary  
report**

### Fabricated pipe and fittings

SIC Code 3498

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Fabricated Pipe and Fittings Industry had total shipments valued at \$310 million, a decrease of 6 percent from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 14 percent from 1958 to a total of 13 thousand employees in 1963. Value added by manufacture amounted to \$147 million in 1963, a decrease of 5 percent from 1958.

The Fabricated Pipe and Fittings Industry includes establishments engaged primarily in fabricating pipe and pipe fittings from purchased pipe, by cutting, threading, bending, etc. Establishments primarily engaged in manufacturing cast iron pipe and fittings, including cast and forged pipe fittings which have been machined and threaded are classified in Industry 3321; welded and heavy riveted pipe in Industry 3317; and seamless steel pipe in Industry 3317.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.—GENERAL STATISTICS FOR THE FABRICATED PIPE AND FITTINGS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3498)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	348	147	13,134	79,714	9,423	18,826	52,093	147,074	163,429	310,193	5,205
1958.....	286	136	15,214	84,015	11,139	22,238	55,347	155,621	174,661	329,979	4,103
1954 <sup>3</sup> .....	250	130	12,670	62,092	9,943	19,352	43,945	122,408	122,283	249,923	4,804
1947 <sup>3</sup> .....	212	(NA)	10,568	33,362	8,273	16,781	23,172	58,786	57,190	115,976	4,084
1939 <sup>3</sup> .....	112	(NA)	(NA)	(NA)	2,792	(NA)	3,737	10,842	12,172	23,014	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Fabricated Pipe and Fittings Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Fabricated Pipe and Fittings Industry amounted to \$310 million. Of this total, \$25 million were products primary to other industries; and \$23 million were receipts for miscellaneous activities. The industry shipments of primary products represent 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 89 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$288 million of fabricated pipe and fittings were shipped by all producers of these products. Of this total, \$262 million, or 91 percent, were shipped by plants classified in Industry 3498, Fabricated Pipe and Fittings, while the remainder was shipped by plants classified in other industries. The comparable percentage for 1958 was 93.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of

the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE FABRICATED PIPE AND FITTINGS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3498)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	348	147	13,134	79,714	9,423	18,826	52,093	147,074	163,429	310,193	5,205	15,214	155,621
New England.....	20	7	538	2,925	420	823	1,998	5,619	4,477	9,517	(1)	438	3,839
Middle Atlantic...	89	45	4,615	28,626	3,066	5,944	16,939	54,580	53,589	106,863	1,537	4,824	63,304
New York.....	23	7	581	2,877	459	891	1,986	6,151	6,264	12,086	(1)	671	6,862
New Jersey.....	22	14	1,486	9,225	995	2,031	5,351	15,886	16,828	32,039	611	1,727	18,625
Pennsylvania....	44	24	2,548	16,524	1,612	3,022	9,602	32,543	30,497	62,738	822	2,426	37,817
East North Central	93	40	3,603	21,554	2,777	5,540	15,201	42,174	46,974	88,978	1,998	5,308	48,851
Ohio.....	29	14	1,834	11,839	1,366	2,705	8,265	25,458	26,411	51,395	793	3,582	39,995
Illinois.....	20	9	447	2,466	370	743	1,865	3,852	6,286	10,377	(1)	627	5,155
Michigan.....	27	11	844	4,884	655	1,317	3,429	8,330	8,661	17,096	(1)	683	429
West North Central	16	4	346	1,507	220	449	1,106	987	5,131	7,965	(1)	1,295	13,392
Missouri.....	11	3	287	1,181	171	351	867	538	4,465	6,872	(1)	955	10,790
South.....	70	31	2,590	16,172	1,919	3,983	10,792	25,408	34,842	60,283	861	2,193	15,252
Texas.....	40	18	1,435	9,280	1,138	2,378	6,733	14,372	22,709	37,063	(1)	1,019	8,312
West.....	60	20	1,442	8,930	1,021	2,087	6,057	18,306	18,416	36,587	600	1,156	10,983
California.....	46	15	1,059	6,719	785	1,645	4,607	14,834	14,511	29,262	(1)	949	8,860

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (h) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF FABRICATED PIPE AND FITTINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Fabricated Pipe and Fittings Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers		
		1963		1958 <sup>1</sup>
		Quantity (short tons)	Value (\$1,000)	Value (\$1,000)
3498- --	Fabricated pipe and fittings, total.....	(X)	287,620	265,378
34980 13	Iron and steel:			
	Quantity reported.....	225,537	113,969	265,378
	Quantity not reported.....	(X)	89,770	
34980 15	Aluminum:			
	Quantity reported.....	3,835	6,688	
	Quantity not reported.....	(X)	6,685	
34980 19	All other nonferrous fabricated pipe and pipe fittings....	(X)	40,022	
34980 00	Fabricated pipe and fittings, not specified by kind.....	(X)	30,486	

(X) Not applicable.

<sup>1</sup>Quantity data are not available for 1958.

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES



## INDUSTRY SERIES

preliminary  
report

### Steam engines and turbines

SIC Code 3511

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963 manufacturers in the Steam Engines and Turbines Industry had value of shipments of \$618 million, a decrease of 36 percent from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 32 percent from 1958 and 7 percent from 1962 to a total of 31 thousand employees in 1963. Value added by manufacture amounted to \$381 million in 1963, a decrease of 35 percent from 1958 and 7 percent from 1962.

The Steam Engines and Turbines Industry includes establishments engaged primarily in the manufacture of mechanical drive steam turbines, steam turbine-gear units, gas turbines, and steam turbine generator sets.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE STEAM ENGINES AND TURBINES INDUSTRY FOR SELECTED YEARS  
(SIC code 3511)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	22	22	30,917	237,522	19,896	38,933	141,740	380,889	242,792	617,503	19,397	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	33,133	245,573	21,108	41,287	145,233	408,389	252,662	657,723	16,700	1
1961 <sup>2</sup> .....	(NA)	(NA)	33,847	238,478	21,082	41,082	138,022	419,960	251,128	695,956	18,977	1
1960 <sup>2</sup> .....	(NA)	(NA)	36,616	244,930	23,437	44,712	142,794	505,514	260,675	758,280	16,531	1
1959 <sup>2</sup> .....	(NA)	(NA)	40,320	260,024	25,480	50,025	155,127	497,613	287,462	813,957	18,666	1
1958.....	28	25	45,347	274,589	29,319	57,791	172,091	568,643	361,126	961,769	20,492	(X)

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction and not yet in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

January 1965

U.S. DEPARTMENT OF COMMERCE, Luther H. Hodges, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees is as follows: All employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. Production workers are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels from 1958 to 1963.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Steam Engines and Turbines Industry consist not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Steam Engines and Turbines Industry amounted to \$618 million. Of this total, \$55 million were products primary to other industries; and \$44 million were receipts for miscellaneous activities. The industry shipments of

primary products represented 90 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 78 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$573 million of steam engines and turbines were shipped by all producers of these products. Of this total, \$518 million, or 91 percent, were shipped by plants classified in Industry 3511, Steam Engines and Turbines, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 94.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in table 1 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (table 1) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 28th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE STEAM ENGINES AND TURBINES INDUSTRY BY REGIONS AND STATES: 1963 AND 1958  
(Not applicable for this industry)

Table 3.--QUANTITY AND VALUE OF STEAM ENGINES AND TURBINES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Steam Engines and Turbines Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments and interplant transfers					
		1963			1958		
		Number of units	Total generating capacity (1,000 kw)	Value (\$1,000)	Number of units	Total generating capacity (1,000 kw)	Value (\$1,000)
3511---	Steam engines and turbines, total.....	(X)	(X)	572,573	(X)	(X)	753,988
35111--	Steam, gas, and hydraulic turbine generator set units and parts.....	(X)	(X)	572,573	(X)	(X)	489,477
35112--	Steam, gas, and hydraulic turbines.....	(X)	(X)		(X)	(X)	264,511
Steam turbine generator sets:							
3511112	Under 2,000 kw.....	(NA)	17,531	288,895	229	149	22,470
3511115	2,000-9,999 kw.....	(NA)			124	1,647	59,986
3511117	10,000-49,999 kw.....	(NA)					
3511121	50,000-99,999 kw.....	(NA)			119	18,604	369,376
3511124	100,000-199,999 kw.....	(NA)					
3511135	200,000 kw and over.....	(NA)					
3511141	Water turbine (hydraulic) generator sets.....	(X)	(X)	130,918	(X)	(X)	37,645
3511145	Gas turbine generator sets.....	(X)	(X)		(X)	(X)	
3511151	Parts for generator set units (steam, water, gas, etc.)	(X)	(X)		(X)	(X)	
3511261	Hydraulic turbines.....	(X)	(X)	16,795	178	3,782	39,594
3511271	Parts and accessories for hydraulic turbines.....	(X)	(X)		(X)	(X)	50,340
3511272	Parts and accessories for steam engines and steam turbines.....	(X)	(X)		(X)	(X)	
			Total horsepower capacity (1,000 hp.)			Total horsepower capacity (1,000 hp.)	
3511221	Mechanical drive steam turbines:						
	Marine, including Navy.....	241	210	4,980	412	260	20,104
Number shipped by horsepower capacity (rated or normal):							
3511222	Under 50 hp.....	34	(X)	(X)	329	(X)	(X)
3511223	50-499 hp.....	147	(X)	(X)		(X)	(X)
3511224 } 25, 26 }	500 hp. and over.....	60	(X)	(X)	83	(X)	(X)
3511229	Other mechanical drive steam engines.....	2,071	894	15,315	2,471	674	19,533
Number shipped by horsepower capacity (rated or normal):							
3511232	Under 50 hp.....	840	(X)	(X)	1,391	(X)	(X)
3511233	50-499 hp.....	865	(X)	(X)	803	(X)	(X)
3511234	500-999 hp.....	194	(X)	(X)	128	(X)	(X)
3511235	1,000-9,999 hp.....	162	(X)	(X)	149	(X)	(X)
3511236	10,000 hp. and over.....	10	(X)	(X)		(X)	(X)
3511241	Steam turbine-gear units:						
	Marine, including Navy.....	<sup>2</sup> 102	1,431	<sup>3</sup> 41,797	<sup>2</sup> 456	1,600	<sup>3</sup> 70,250
3511251	Other steam turbine-gear units.....	304	87	<sup>2</sup> 2,913	376	93	<sup>3</sup> 3,983
Number shipped by horsepower capacity (rated or normal):							
3511252	Under 50 hp.....	55	(X)	(X)	103	(X)	(X)
3511253	50-499 hp.....	209	(X)	(X)	207	(X)	(X)
3511254	500-999 hp.....	30	(X)	(X)	48	(X)	(X)
3511255	1,000-9,999 hp.....	10	(X)	(X)	18	(X)	(X)
3511274	Gas turbines (except aircraft).....	1,333	(X)	61,624	(X)	(X)	60,707
3511275	Parts and accessories for gas turbines (except aircraft).....	(X)	(X)	9,336	(X)	(X)	

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Of this total, 27 had a rated capacity of 24,999 hp. or under and 51 had a capacity of 25,000 hp. or over.

<sup>2</sup>For 1958, the 456 units shipped had a rated horsepower capacity as follows: 20-199 hp., 96; 200-499 hp., 59; 500-999 hp., 218; and 1,000 hp. and over 33. Comparable data for 1963 are not available.

<sup>3</sup>Includes the value of gears.

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35A-2



INDUSTRY SERIES

preliminary  
report

## Internal combustion engines

SIC Code 3519

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Internal Combustion Engines Industry had total shipments valued at \$1,458 million, an increase of 34 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 7 percent from 1958 and 5 percent from 1962 to a total of 56 thousand employees in 1963. Value added by manufacture amounted to \$721 million in 1963, an increase of 39 percent from 1958 and 16 percent from 1962.

The Internal Combustion Engine Industry includes establishments engaged primarily in the manufacture of Diesel, semi-Diesel, or other internal combustion engines, not elsewhere classified, for stationary, marine, traction, and other uses.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE INTERNAL COMBUSTION ENGINES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3519)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	139	80	55,529	370,857	41,609	84,692	259,066	720,758	743,125	1,458,189	33,184	(X)
1962 <sup>2</sup> r....	(NA)	(NA)	53,112	335,514	41,150	78,493	231,211	623,294	708,434	1,316,936	30,152	3
1961 <sup>2</sup> r....	(NA)	(NA)	46,139	280,928	40,184	65,291	184,102	501,018	561,751	1,079,955	31,993	2
1960 <sup>2</sup> r....	(NA)	(NA)	50,003	297,477	43,599	71,157	199,009	520,411	612,159	1,158,550	24,729	2
1959 <sup>2</sup> r....	(NA)	(NA)	55,878	336,590	50,489	84,412	228,952	656,068	682,947	1,296,850	35,609	1
1958 <sup>3</sup> r....	113	76	52,004	286,816	42,607	72,564	190,997	520,443	552,327	1,085,808	50,628	(X)

(NA) Not available. (X) Not applicable. <sup>2</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1959 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1958-1963 are not comparable with those for earlier years.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Internal Combustion Engines Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Internal Combustion Engines Industry amounted to \$1,458 million. Of this total, \$164 million were products primary to other industries; and \$58 million were receipts for miscellaneous activities. The industry shipments of primary products represented 88 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 90 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,422 million of internal combustion engines were shipped by all producers of these products. Of this total, \$1,236 million, or 87 percent, were shipped by plants classified in Industry 3519, Internal Combustion Engines, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 82.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.



Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809.

For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE INTERNAL COMBUSTION ENGINES INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958  
(Preliminary State and regional detail not available without further review)

Table 3.—QUANTITY AND VALUE OF INTERNAL COMBUSTION ENGINES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Internal Combustion Engines Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of engines)	Value (\$1,000)	Quantity (number of engines)	Value (\$1,000)
3519- --	Internal combustion engines, total.....	(X)	1,422,430	(X)	<sup>1</sup> 1,137,201
	Gasoline engines, except outboard, aircraft, automobile, truck, bus, and tank:				
35191 00	As reported in the census of manufactures <sup>1</sup> .....	(X)	278,454	(X)	230,239
	As reported on Census Annual Form MA-35L <sup>1</sup> .....	6,284,999	267,430	5,206,921	230,069
35192 --	Diesel and semi-Diesel engines.....	(X)	465,852	(X)	314,480
	Diesel and semi-Diesel engines (except automotive):				
35192 10	As reported in the census of manufactures <sup>1</sup> .....	(X)	300,370	(X)	221,575
	As reported on Census Annual Form MA-35L <sup>1</sup> .....	108,522	289,171	<sup>2</sup> 76,857	<sup>2</sup> 236,025
35192 50	Diesel and semi-Diesel engines (automotive).....	63,061	165,482	31,491	92,905
	Gas engines (except gas turbines):				
35193 10	As reported in the census of manufactures <sup>1</sup> .....	(X)	22,521	(X)	22,878
	As reported on Census Annual Form MA-35L <sup>1</sup> .....	6,253	22,318	5,517	31,458
35195 --	Outboard motors.....			(X)	157,879
35196 --	Other internal combustion engines, including dual-fuel engines, tank engines, and all other converted engines, including jet propulsion engines, except aircraft (converted from purchased engines or from engines received from another plant of the same company).....	(X)	<sup>3</sup> 179,803	(X)	<sup>2</sup> 31,025
35197 15	Parts and accessories for internal combustion engines (except aircraft, and automotive engines and gas turbines).....	(X)	474,002	(X)	<sup>1</sup> 379,358
35190 00	Internal combustion engines, not specified by kind.....	(X)	1,798	(X)	1,342

(X) Not applicable. <sup>1</sup>Revised.

<sup>2</sup>For these products, figures were also collected in the Bureau of the Census commodity survey program. In lieu of asking for detailed statistics on these products in the census of manufactures, respondents were asked to report only value of shipments for specified groups of products for which separate figures had previously been collected in the commodity survey. In most cases, the value figures reported in the census of manufactures for each group of products agreed closely with the corresponding figures reported in the commodity survey. However, there were minor differences between the census figures and the commodity survey figures. These variations were due primarily to the following reasons:

- Better coverage in census of manufactures program. Coverage in the annual survey on Form MA-35L will be supplemented by adding respondents not currently in the survey but making the specified product according to their census of manufactures report.
- Use of different reporting periods (calendar year vs. fiscal year).
- Use of estimates in reporting figures on the commodity survey, whereas census of manufactures figures generally represent more exact shipment figures.

See current Industrial Reports Series M35L "Internal Combustion Engines" for more detailed product data.

<sup>2</sup>Dual-fuel engines shipped in 1958 were included with Diesel and Semi-Diesel (except automotive).

<sup>3</sup>Includes dual-fuel engines.



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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35A-3



INDUSTRY SERIES

preliminary  
report

## Farm machinery and equipment

SIC Code 3522

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Farm Machinery and Equipment Industry shipped products valued at \$2,852 million, an increase of 18 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 4 percent from 1958 and 7 percent from 1962 to a total of 113 thousand employees in 1963. Value added by manufacture amounted to \$1,334 million in 1963, an increase of 23 percent from 1958 and 11 percent from 1962.

The Farm Machinery and Equipment Industry includes establishments engaged primarily in the manufacture of farm machinery, including equipment and wheel tractors, for use in the preparation and maintenance of the soil; planting and harvesting of the crop; preparing, on the farm, crops for market; or for use in performing other farm operations and processes. This industry includes wheel tractors except contractors' off-highway type which are classified in Industry 3531.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957

Table 1.--GENERAL STATISTICS FOR THE FARM MACHINERY AND EQUIPMENT INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3522)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,562	555	113,222	692,173	84,951	169,213	477,286	1,333,717	1,539,996	2,851,621	64,656	(X)
1962.....	(NA)	(NA)	106,222	618,178	77,139	151,709	413,012	1,205,892	1,335,014	2,481,979	42,999	6
1961 <sup>2</sup> .....	(NA)	(NA)	102,538	579,271	76,371	150,710	382,040	1,057,083	1,251,580	2,339,537	45,946	5
1960 <sup>2</sup> .....	(NA)	(NA)	99,115	540,245	71,110	141,666	355,533	941,021	1,162,115	2,162,640	55,636	4
1959 <sup>2</sup> .....	(NA)	(NA)	113,153	617,791	84,803	167,685	423,986	1,172,210	1,450,737	2,559,491	42,824	2
1958.....	1,469	509	108,586	550,998	79,922	153,962	373,240	1,087,836	1,318,416	2,421,873	54,655	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was made in the 1957 Standard Industrial Classification so that data for the industry are not available for earlier years.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of

products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Farm Machinery and Equipment Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Farm Machinery and Equipment Industry amounted to \$2,852 million. Of this total, \$320 million were products primary to other industries; and \$120 million were receipts for miscellaneous activities. The industry shipments of primary products represented 88 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 90 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$2,535 million of farm machinery were shipped by all producers of these products. Of this total, \$2,411 million, or 95 percent, were shipped by plants classified in Industry 3522, Farm Machinery and Equipment, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 94.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports



## 1963 CENSUS OF MANUFACTURES

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will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE FARM MACHINERY AND EQUIPMENT INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3522)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,562	555	113,222	692,173	84,951	169,213	477,286	1,333,717	1,539,996	2,851,621	64,656	108,586	1,087,836
Northeast.....	110	34	5,156	32,200	3,207	6,880	17,139	73,183	60,959	134,250	4,409	7,067	74,993
Pennsylvania....	35	14	2,952	19,727	1,856	4,207	10,423	43,095	42,575	85,480	1,210	3,885	49,403
East North Central	405	196	52,896	335,888	39,404	79,176	232,727	646,577	792,009	1,418,491	31,524	55,944	584,379
Ohio.....	73	33	6,400	36,238	5,140	10,363	27,194	63,741	100,778	162,127	2,025	5,273	45,043
Indiana.....	64	35	5,187	28,647	3,748	7,199	18,129	48,779	68,680	115,482	1,501	4,850	44,014
Illinois.....	110	62	23,567	156,967	17,932	35,366	111,894	288,550	325,843	608,045	20,754	26,730	285,018
Michigan.....	67	26	5,230	34,918	3,948	8,560	24,452	104,090	140,292	238,058	1,774	4,786	78,642
Wisconsin.....	91	40	12,512	79,118	8,636	17,688	51,058	141,417	156,416	294,779	5,670	14,305	131,662
West North Central	412	158	33,629	207,107	25,747	50,168	147,356	403,001	434,427	838,299	19,408	29,186	293,825
Minnesota.....	83	38	5,489	29,467	4,219	8,167	20,723	62,357	70,532	133,903	2,158	4,404	45,082
Iowa.....	119	55	21,605	146,413	16,826	32,499	106,289	286,498	281,334	559,662	14,589	18,888	190,287
Missouri.....	42	11	2,080	10,797	1,421	3,048	8,061	15,048	35,389	57,191	1,001	1,922	21,630
Nebraska.....	58	20	1,946	8,644	1,491	2,596	4,943	13,900	17,518	32,813	(1)	1,661	14,445
Kansas.....	84	28	1,967	9,333	1,377	3,015	5,739	19,171	20,185	38,691	981	1,953	19,215
South Atlantic....	122	43	4,921	21,957	3,723	7,419	13,174	45,580	51,478	95,621	2,049	3,180	22,341
Virginia.....	12	7	527	2,209	460	990	1,681	5,437	3,519	8,103	(1)	282	1,985
North Carolina....	26	11	1,299	5,287	1,109	2,219	3,231	8,645	11,506	20,504	(1)	849	5,043
Georgia.....	30	13	1,653	7,322	1,210	2,348	4,229	15,862	21,523	37,384	655	1,304	8,809
Florida.....	42	7	891	4,615	530	1,066	2,297	9,732	8,308	17,847	(1)	260	2,113
East South Central	66	29	9,222	55,263	7,361	14,146	40,471	91,193	118,842	210,600	4,208	6,876	62,006
Alabama.....	19	9	898	3,881	718	1,393	2,301	9,002	11,488	20,125	(1)	587	4,099
West South Central	122	38	2,596	11,784	1,837	3,906	7,462	23,155	28,447	50,558	957	2,087	13,733
Louisiana.....	11	4	515	2,407	337	799	1,557	4,266	7,731	11,594	(1)	305	2,123
Texas.....	80	21	1,428	6,254	979	2,055	3,796	12,929	14,495	26,834	(1)	1,473	9,712
Mountain.....	84	12	1,116	6,037	901	1,873	4,324	10,343	11,821	22,441	618	763	6,406
Idaho.....	31	3	303	1,579	250	534	1,233	2,426	3,445	6,025	(1)	237	1,686
Colorado.....	27	5	425	2,401	327	673	1,525	4,838	3,621	8,501	(1)	320	3,374
Pacific.....	241	45	3,686	21,937	2,771	5,645	14,633	40,685	42,013	81,361	(1)	3,483	30,153
Washington.....	29	6	341	1,886	269	542	1,331	3,370	3,929	7,174	(1)	322	2,430

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF FARM MACHINERY AND EQUIPMENT SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Farm Machinery and Equipment Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963 total production (number of units)	Total shipments including interplant transfers			
			1963		1958	
			Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3522- --	Farm machinery, total.....	(X)	(X)	2,534,630	(X)	2,172,893
35222 --	Wheel tractors and parts and attachments.....	(X)	(X)	793,591	(X)	687,271
	As reported in the census of manufactures <sup>1</sup> .....	(X)	(X)	736,462	(X)	627,328
	As reported on Census Form MA-35T <sup>1</sup> .....	(X)	(X)	2 770,676	(X)	657,721
35222 81	Parts sold to other plants producing wheel tractors (except contractors' off-highway type, garden tractors and motor tillers).....	(X)	(X)	57,129	(X)	59,943
35223 --	Planting, seeding, and fertilizing machinery and parts:					
	As reported in the census of manufactures <sup>1</sup> .....	(X)	(X)	118,511	(X)	95,984
	As reported on Census Annual Form MA-35A <sup>1</sup> .....	(X)	(X)	111,813	(X)	101,197
35224 --	Plows, listers, harrows, rollers, pulverizers, stalk cutters and parts, total.	(X)	(X)	192,877	(X)	160,576
	Harrows, rollers, pulverizers, stalk cutters, and similar equipment:					
	As reported in the census of manufactures <sup>1</sup> .....	(X)	(X)	115,959	(X)	83,029
	As reported on Census Annual Form MA-35A <sup>1</sup> .....	(X)	(X)	112,331	(X)	92,054
	Plows and listers:					
	As reported in the census of manufactures <sup>1</sup> .....	(X)	(X)	76,918	(X)	77,547
	As reported on Census Annual Form MA-35A <sup>1</sup> .....	(X)	(X)	76,900	(X)	73,908
35225 --	Harvesting machinery:					
	As reported in the census of manufactures <sup>1</sup> .....	(X)	(X)	2 395,152	(X)	321,434
	As reported on Census Annual Form MA-35A <sup>1</sup> .....	(X)	(X)	2 381,607	(X)	311,916
35226 --	Haying machinery:					
	As reported in the census of manufactures <sup>1</sup> .....	(X)	(X)	133,802	(X)	182,536
	As reported on Census Annual Form MA-35A <sup>1</sup> .....	(X)	(X)	130,595	(X)	175,860
35228 --	All other farm machinery and equipment (except lawn mowers and parts).....	(X)	(X)	560,297	(X)	450,571
	Products included in the census of manufactures and on Form MA-35A:					
	As reported in the census of manufactures <sup>1</sup> .....	(X)	(X)	409,438	(X)	335,416
	As reported on Census Annual Form MA-35A <sup>1</sup> .....	(X)	(X)	391,490	(X)	322,194
	Windmill heads and towers:					
	As reported in the census of manufactures <sup>1</sup> .....	(X)	(X)	2,172	(X)	2,563
	As reported on Census Monthly Form M-35C <sup>1</sup> .....	(X)	10,106	2,028	10,054	1,473
35228 62	Windmill heads.....	(X)	7,562	1,597	6,983	987
35228 63	Windmill towers.....	(X)	2,544	431	3,071	485
35228 87	Hedge trimmers and shears, power:					
	Quantity reported.....	(X)	113,399	1,958	125,324	2,478
	Quantity not reported.....	(X)	(X)	718	(X)	335
35228 98	Other farm machines, equipment and parts including parts sold to other plants producing farm equipment.....	(X)	(X)	132,165	(X)	80,944
35228 00	All other farm machines and equipment, including parts and attachments, not specified by kind.....	(X)	(X)	13,846	(X)	28,835
35227 --	Lawn mowers, and parts.....	(X)	(X)	266,517	(X)	239,815
35227 11	Hand (reel type).....	408,887	447,183	5,774	391,412	5,341
	Power:					
	Reel type:					
35227 23	Nonriding.....	397,658	422,302	25,117	305,657	20,978
35227 25	Integral riding.....	12,258	11,640	3,831	18,569	4,138
	Rotary type:					
35227 41	Hand traction.....	2,524,031	2,304,033	95,426	2,250,288	99,776
	Power traction:					
35227 53	Nonriding.....	691,639	661,013	38,912	1,114,755	54,669
35227 55	Integral riding.....	241,057	240,107	36,013	142,739	23,505
35227 71	Parts for lawn mowers.....	(X)	(X)	21,035	(X)	15,681
35227 98	Other (including gang-cutting units, sickle-bar mowers shipped as complete units, lawn edgers, special cutting units, snow blowers and snow throwers).....	(X)	(X)	35,765	(X)	9,800
35227 00	Lawn mowers and parts, not specified by kind.....	(X)	(X)	4,644	(X)	5,927
35220 00	Farm machinery and equipment, not specified by kind.....	(X)	(X)	73,883	(X)	34,706

(X) Not applicable. <sup>2</sup>Revised.

<sup>1</sup>For these products, figures were also collected in the Bureau of the Census commodity survey program. In lieu of asking for detailed statistics on these products in the census of manufactures, respondents were asked to report only value of shipments for specified groups of products for which separate figures had previously been collected in the commodity survey. In most cases, the value figures reported in the census of manufactures for each group of products agreed closely with the corresponding figures reported in the commodity survey. However, there were minor differences between the census figures and the commodity survey figures. These variations were due primarily to the following reasons:

- Use of different reporting periods (calendar year vs. fiscal year).
- Use of different bases for reporting value (company sales vs. factory production).
- Use of estimates in reporting figures on the commodity survey, whereas census of manufactures figures generally represent more exact shipment figures.

See Current Industrial Reports Series M35A "Farm Machines and Equipment" and M35S "Tractors" for more detailed product data.

<sup>2</sup>Data for 1963 as published in the Current Industrial Reports Series should be revised as follows:

Product	Shipments		Current Industrial Reports Series
	Quantity (number of units)	Value (\$1,000)	
Parts for wheel tractors (for replacement or repair).....	(X)	124,698	M35S
Self propelled combines 14 feet and under 16 feet header size	5,828	25,063	M35A
Windrowers or swathers.....	6,000	13,191	M35A



# 1963 CENSUS OF MANUFACTURES

MC63(P)-35B-1



## INDUSTRY SERIES

preliminary  
report

### Construction machinery

SIC Code 3531

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Construction Machinery Industry had total shipments valued at \$2,639 million, an increase of 25 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 9 percent from 1958 and 5 percent from 1962 to a total of 104 thousand employees in 1963. Value added by manufacture amounted to \$1,265 million in 1963, an increase of 24 percent from 1958 and 11 percent from 1962.

The Construction Machinery Industry includes establishments engaged primarily in the manufacture of heavy machinery and equipment used by the construction industries, such as bulldozers; concrete mixers; cranes, except industrial plant; dredging machinery; pavers and power shovels.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE CONSTRUCTION MACHINERY INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3531)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	615	303	103,684	678,445	75,898	153,879	458,375	1,264,602	1,380,849	2,638,825	55,808	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	98,996	631,091	71,317	142,334	416,760	1,142,868	1,284,264	2,369,864	49,835	3
1961 <sup>2</sup> .....	(NA)	(NA)	94,954	570,135	67,169	131,360	366,198	972,120	1,153,990	2,150,450	41,384	2
1960 <sup>2</sup> .....	(NA)	(NA)	111,713	636,645	78,067	152,464	412,615	930,715	1,287,214	2,254,164	71,317	2
1959 <sup>2</sup> .....	(NA)	(NA)	112,809	654,886	81,240	166,059	435,200	1,179,894	1,395,952	2,517,379	66,108	1
1958 <sup>3</sup> .....	579	295	95,304	496,751	66,510	124,622	310,252	1,022,801	1,033,605	2,107,352	45,377	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that comparable data for prior years are not available.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





## ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

## EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

## VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

## VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Construction Machinery Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Construction Machinery Industry amounted to \$2,639 million. Of this total, \$180 million were products primary to other industries; and \$140 million were receipts for miscellaneous activities. The industry shipments of primary products represented 93 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 88 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$2,577 million of construction machinery and equipment were shipped by all producers of these products. Of this total, \$2,319 million, or 90 percent, were shipped by plants classified in Industry 3531, Construction Machinery, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 90.

## GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965.

through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE CONSTRUCTION MACHINERY INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3531)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expendi- tures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	615	303	103,684	678,445	75,898	153,879	458,375	1,264,602	1,380,849	2,638,825	55,808	95,304	1,022,801
New England.....	22	8	747	4,279	545	1,134	2,742	6,171	5,387	12,083	(1)	963	7,588
Massachusetts...	12	4	268	1,710	183	399	1,008	1,842	2,362	4,142	(1)	313	3,140
Middle Atlantic...	72	36	4,732	29,378	3,247	5,581	18,340	54,793	57,719	113,037	3,246	5,790	74,855
New York.....	24	13	1,163	6,579	836	1,716	4,366	12,023	18,282	29,661	578	663	8,068
New Jersey.....	24	9	934	5,873	587	1,190	3,167	8,450	8,499	18,912	(1)	1,291	11,726
Pennsylvania....	24	14	2,635	16,926	1,824	3,675	10,807	34,320	30,938	64,464	2,551	3,836	55,061
East North Central	207	127	75,044	502,604	55,390	111,638	345,180	939,735	1,022,078	1,957,354	38,074	70,285	771,670
Ohio.....	63	39	11,641	77,014	8,103	16,471	48,287	133,584	177,070	312,723	4,368	12,082	99,894
Indiana.....	15	10	3,658	21,918	2,663	5,133	14,909	45,183	36,952	87,708	655	4,050	35,061
Illinois.....	60	35	44,539	303,514	33,928	68,490	216,426	573,478	604,495	1,159,308	28,809	36,749	477,030
Michigan.....	31	16	4,500	27,683	3,013	5,528	16,415	51,602	74,751	130,156	1,712	4,624	49,821
Wisconsin.....	38	27	10,706	72,475	7,683	16,016	49,143	135,888	128,810	267,459	3,478	12,780	109,864
West North Central	82	45	10,579	65,208	7,476	15,586	41,672	126,750	147,322	271,984	7,701	8,687	74,988
Minnesota.....	30	14	4,038	24,608	2,825	5,989	16,023	42,554	42,260	83,984	2,844	3,134	24,831
Iowa.....	23	13	4,719	29,645	3,341	6,991	18,958	68,571	75,520	143,502	2,654	4,532	43,919
Missouri.....	12	9	1,134	7,106	789	1,504	4,111	11,028	19,588	29,127	(D)	448	2,781
South Atlantic....	27	5	1,123	7,338	827	1,650	4,345	20,179	23,792	41,460	1,275	1,175	15,918
East South Central	16	6	1,065	5,923	844	1,833	4,369	8244	9,562	17,831	622	928	7,353
West South Central	52	28	3,645	19,976	2,812	6,080	13,166	33,845	38,752	73,743	1,247	2,761	24,689
Texas.....	34	17	2,374	13,042	1,789	3,922	8,347	20,887	26,148	48,064	644	1,520	13,201
Mountain.....	21	7	1,294	7,751	831	1,689	5,159	7,439	10,013	18,610	(1)	1,144	15,806
Pacific.....	116	41	5,455	35,988	3,926	7,688	23,402	67,446	66,224	132,723	2,160	3,571	29,934
Washington.....	14	6	1,141	8,237	947	1,871	6,446	11,795	11,401	23,303	643	727	6,657
Oregon.....	13	4	268	1,668	178	362	1,030	3,914	4,188	7,875	(1)	237	2,820
California.....	89	31	4,046	26,083	2,801	5,455	15,926	51,737	50,635	101,545	1,366	2,607	20,457

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF CONSTRUCTION MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Construction Machinery Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments and interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3531- --	Construction machinery and equipment, total.....	(X)	2,577,433	(X)	1,996,322
35311 --	Contractors' off-highway wheel tractors, except parts and attachments:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	102,660	(X)	89,956
	As reported on Census Form M35D or MA-35D <sup>1</sup> .....	(X)	101,024	(X)	85,480
35312 --	Tracklaying type tractors, except parts and attachments:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	319,460	(X)	287,300
	As reported on Census Annual Form MA-35T <sup>1</sup> .....	(X)	314,075	(X)	266,570
35313 --	Parts and attachments for tracklaying and contractors' off-highway wheel tractors, total.....	(X)	285,192	(X)	272,072
35313 13	Parts (for replacement and repair) and attachments for tracklaying tractors:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	216,950	(X)	(NA)
	As reported on Census Annual Form MA-35T <sup>1</sup> .....	(X)	216,916	(X)	223,403
35313 61	Parts sold to other plants producing tracklaying tractors and contractors' off-highway type wheel tractors.....	(X)	33,388	(X)	26,319
35313 65	Parts (for replacement and repair) and attachments for contractors' off-highway type wheel tractors:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	34,854	(X)	(NA)
	As reported on Census Form M35D or MA-35D <sup>1</sup> .....	(X)	<sup>2</sup> 35,995	(X)	35,360
35314 --	Power cranes (including locomotive, full circle, revolving with booms) draglines, shovels, and parts, total.....	(X)	460,907	(X)	361,068
35314 11	Cranes (except construction power cranes), locomotive, full circle revolving with booms, and other types:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	20,681		(NA)
	As reported on Census Form M35D or MA-35D <sup>1</sup> .....	(X)	<sup>2</sup> 19,188	(X)	<sup>3</sup> 23,982
35314 21	Power cranes, draglines and shovels, including mine shovels and walking draglines and walking cranes but exclude equipment for mounting on tractors:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	306,767	(X)	(NA)
	As reported on Census Form MA-35D <sup>1</sup> .....	(X)	<sup>2</sup> 289,281	(X)	216,458
35314 81	Front end attachments, buckets, grapples, slings, etc., for power cranes, draglines, and shovels (sold separately).....	(X)	15,129	(X)	18,486
35314 85	Parts for power cranes, draglines, and shovels.....	(X)	113,704	(X)	95,391
35314 00	Power cranes, draglines and shovels and parts, not specified by kind....	(X)	4,626	(X)	-
35316 --	Mixers, pavers, and related equipment, excluding parts, total.....	(X)	130,702	(X)	101,908
	Concrete:				
35316 12	Mixers, portable under 3 1/2 cu. ft. capacity (except plaster and mortar), hand or power operated.....	23,569	1,347	18,680	1,403
35316 22	Mixers, portable, 3 1/2 cu. ft. and over (except plaster and mortar), truck mixer or agitator type and other types:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	32,477	(X)	(NA)
	As reported on Census Form M35D or MA-35D <sup>1</sup> .....	(X)	33,053	(X)	32,552
35316 31	Mixers, plaster and mortar.....	10,183	4,666	7,364	3,234
35316 34	Pavers, finishers and spreaders.....	10,185	20,213	1,510	8,451
35316 37	Batching plants, bin and batch for concrete, aggregate only and bulk cement:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	<sup>2</sup> 17,594	(X)	(NA)
	As reported on Census Form M35D or MA-35D <sup>1</sup> .....	(X)	16,041	(X)	15,024
35316 39	Concrete vibrators.....	22,287	4,595	(NA)	2,858
35316 40	Bituminous distributors, asphalt plants and other equipment:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	37,412	(X)	(NA)
	As reported on Census Form M35D or MA-35D <sup>1</sup> .....	(X)	38,774	(X)	43,494
35316 52	Other materials—aggregate spreaders and soil stabilization pavers.....	5,327	7,807	5,793	4,364
35316 00	Mixers, pavers and related equipment not specified by kind.....	(X)	4,591		3,767
35317 --	Tractor-shovel loaders, total.....	(X)	385,988	(X)	142,890
35317 10	Wheel type:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	<sup>2</sup> 151,833	(X)	(NA)
	As reported on Census Form M35D or MA-35D <sup>1</sup> .....	(X)	151,534	(X)	<sup>3</sup> 69,977
35317 20	Track-laying type, 20 net engine hp. and over (including parts and attachments):				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	218,023	(X)	(NA)
	As reported on Census Annual Form MA-35T <sup>1</sup> .....	(X)	214,777	(X)	<sup>4</sup> 87,912
35317 95	Parts and attachments for wheel type tractor-shovel loaders.....	(X)	16,132	(X)	(NA)
35318 --	Scrapers, graders, compactors, rollers, and off-highway trucks, trailers, and wagons, and equipment for mounting on tracklaying or heavy duty wheel type tractors, excluding parts:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	459,755	(X)	326,002
	As reported on Census Form M35D or MA-35D <sup>1</sup> .....	(X)	449,522	(X)	<sup>3</sup> 291,510

See footnotes at end of table.



Table 3.—QUANTITY AND VALUE OF CONSTRUCTION MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Total shipments and interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
35319 --	Other construction machinery and equipment, include other construction machinery parts, total.....	(X)	397,458	(X)	383,090
	Excavating and road construction and maintenance machinery, except shovels and cranes:				
35319 11	Dredging machinery, hydraulic and other types.....	(X)	14,186	(X)	10,668
35319 15	Self-propelled ditchers and trenchers, including ladder and wheel types:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	16,849	(X)	(NA)
	As reported on Census Form M35D or MA-35D <sup>1</sup> .....	(X)	16,809	(X)	8,155
35319 21	Railway maintenance of way equipment (rail layers, ballast spreaders, etc.), except rail cars.....	(X)	22,459	(X)	19,965
35319 27	Water well and blast hole drills, portable churn-drill type:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	19,620	(X)	(NA)
	As reported on Census Form M35D or MA-35D <sup>1</sup> .....	(X)	17,393	(X)	( <sup>3</sup> )
35319 31	Pulverizers and grinders, portable.....	139	1,738	157	3,469
	Winches:				
35319 52	Winches, except winches for mounting on wheel or tracklaying tractors.....	33,589	21,207	26,334	17,108
35319 55	Winches (towing, logging and oil-field types) for mounting on wheel or tracklaying tractors:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	19,325	(X)	(NA)
	As reported on Census Form M35D or MA-35D <sup>1</sup> .....	(X)	19,285	(X)	( <sup>3</sup> )
35319 71	Derricks, except oil and gas well (including gallowes, frames, ginpole, stiff legs and guy).....	897	3,812	708	919
35319 75	Portable crushing plants, screening plants, washing plants and combination plants:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	19,268	(X)	(NA)
	As reported on Census Form M35D or MA-35D <sup>1</sup> .....	(X)	19,779	(X)	29,129
35319 81	Snow plows (for mounting on tractors or trucks) rotary, blowers, "V" and single blades and wings (attachments only).....	(NA)	22,592	22,157	10,337
35319 85	Other excavating and road construction machinery, including earth augers and power post-hole diggers, drawn ditchers and trenchers, contractors' hand held air tools, motor pick-up sweepers, graders (other than motor graders, drawn rollers, as well as other types of excavating and earth moving equipment not specified above).....	(X)	49,104	(X)	39,730
35319 85	Parts and attachments for construction machinery and equipment (sold separately) (except parts and attachments for power cranes, draglines and shovels).....	(X)	139,423	(X)	198,118
35319 98	All other construction machinery and equipment.....	(X)	43,127	(X)	30,938
35319 00	Other construction machinery and equipment, not specified by kind....	(X)	4,748	(X)	4,458
35310 00	Construction machinery and equipment, not specified by kind.....	(X)	35,311	(X)	32,036

- Represents zero. (NA) Not available. (X) Not applicable. <sup>R</sup>Revised.

<sup>1</sup>For these products, data were also collected in the census annual commodity survey program. In lieu of asking for detailed statistics on these products in the 1958 Census of Manufactures, respondents were asked to report only value of shipments for specified products or classes of products for which separate figures had previously been collected in the commodity survey. In most cases, the value figures reported in the Census of Manufactures for each product or class of products agreed closely with the corresponding figures reported in the commodity survey. However, there were some differences between the census figures and the commodity survey figures. These variations were due primarily to the following reasons:

- Use of different reporting periods (calendar year vs. fiscal year.)
- Use of different bases for reporting value (company sales vs. factory production.)
- Use of estimates in reporting data on the commodity survey whereas Census of Manufactures figures generally represent more exact shipments figures.

See Current Industrial Reports Series M35D, "Construction Machinery," and M35S, "Tractors," for more detailed product data.

<sup>2</sup>Data for 1963 as published in the Current Industrial Reports Series M35D for selected products should be revised as follows:

Product	Quantity (number of units)	Value (\$1,000)
Parts (for replacement and repair) for contractors' off-highway type wheel tractors.....	(X)	30,772
Locomotive cranes (except wrecking).....	47	3,662
Full circle cranes revolving with booms.....	156	5,757
Other cranes, including locomotive wrecking.....	250	6,768
Crawler mounted power cranes, draglines, and shovels under 3/4 cubic yard shovel capacity....	412	7,155
Rubber tired power cranes (truck or wheel mounted) maximum working load:		
Up to and including 10 tons.....	1,577	14,316
Over 10 up to and including 15 tons.....	1,050	21,552
Over 15 up to and including 20 tons.....	156	4,325
Over 20 up to and including 25 tons.....	255	8,484
Over 25 up to and including 30 tons.....	256	10,531
Over 30 up to and including 35 tons.....	178	8,870
Over 35 up to and including 45 tons.....	182	11,090
Over 45 up to and including 60 tons.....	167	11,835
Over 60 tons.....	156	16,240
Concrete batching plants (bin and batch).....	940	16,041
Tractor-shovel loaders, wheel type, 4-wheel drive:		
1 cu. yd. and under 1 1/2 cu. yd.....	2,542	21,446
1 1/2 cu. yd. and under 2 1/2 cu. yd.....	2,651	31,562
2 1/2 cu. yd. and under 3 1/2 cu. yd.....	2,241	41,709
3 1/2 cu. yd. and under 5 cu. yd.....	447	10,775
Portable crushing plants, screening plants, washing plants and combination plants 50 tons per hours and over.....	622	17,152

<sup>3</sup>For 1958, selected types of construction machinery for which figures were collected on Census Annual Form MA-35D or Quarterly Form M35D but which could not be published are included with code 3531411. These products include scrapers, 2 and 4-wheel, under 7 cubic yard standard struck capacity; winches (towing, logging and oil field types) for mounting on tractors; cranes for mounting on tractors; wheel tractors (truck type), off-highway type, 2 and 3 axle models; and portable drills, churn drill type, water well and blast hole.

<sup>4</sup>Data for 1958 exclude parts and attachments.

# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census Washington, D.C., 20233.





**U.S. DEPARTMENT OF COMMERCE**

**BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233**

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35B-2



preliminary  
report

INDUSTRY SERIES

## Mining machinery and equipment

SIC Code 3532

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Mining Machinery and Equipment Industry had total shipments valued at \$400 million, an increase of 17 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 7 percent from 1958 to a total of 17 thousand employees in 1963. Value added by manufacture amounted to \$205 million in 1963, an increase of 24 percent from 1958.

The Mining Machinery and Equipment Industry includes establishments engaged primarily in the manufacture of heavy machinery and equipment used by the mining industries, such as coal breakers, mine cars, mineral cleaning machinery, concentration machinery, core drills, coal cutters, portable rock drills, and rock crushing machinery.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE MINING MACHINERY AND EQUIPMENT INDUSTRY IN THE UNITED STATES FOR 1963 AND 1958

(SIC code 3532)

Year	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	203	92	16,611	108,010	11,539	22,842	66,526	205,342	196,618	400,088	6,420
1958 <sup>3</sup> .....	173	90	17,808	96,966	11,661	22,578	56,423	165,831	167,142	342,035	6,507

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The standard errors associated with these estimates are published in the annual survey of manufactures volumes for this period.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Mining Machinery and Equipment Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of all establishments classified in the Mining Machinery and Equipment Industry amounted to \$400 million. Of this total, \$85 million were products primary to other industries; and \$49 million were receipts for miscellaneous activities. The industry shipments of primary products represented 76 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 72 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$326 million of mining machinery and equipment were shipped by all producers of these products. Of this total, \$266 million, or 81 percent, were shipped by plants classified in Industry 3532, Mining Machinery and Equipments while the remainder was shipped by plants classified in other industries. The 1958 ratio was 77 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.



Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809.

For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE MINING MACHINERY AND EQUIPMENT INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3532)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	203	92	16,611	108,010	11,539	22,842	66,526	205,342	196,618	400,088	6,420	17,808	165,831
Northeast.....	44	28	5,106	31,946	3,458	6,998	20,150	55,177	74,372	132,635	1,752	5,279	47,032
Pennsylvania....	34	22	3,250	21,195	2,113	4,248	12,806	34,171	52,752	87,402	959	3,286	30,747
East North Central	48	27	6,667	45,929	4,551	8,735	26,996	84,670	77,451	157,867	2,639	7,021	59,704
Ohio.....	17	11	1,480	9,322	1,153	1,936	6,747	18,688	14,846	34,206	( <sup>1</sup> )	4,043	31,372
Illinois.....	12	7	1,305	8,770	898	1,696	5,215	14,884	12,057	26,550	( <sup>1</sup> )	1,464	12,161
West North Central	17	10	1,079	6,997	769	1,574	4,390	13,684	12,293	26,270	( <sup>1</sup> )	1,323	11,903
South.....	56	15	1,651	8,895	1,201	2,395	5,569	16,792	13,651	30,750	759	1,658	14,475
West Virginia...	27	9	1,184	6,484	854	1,682	4,029	11,007	10,222	21,557	521	936	7,324
Mountain.....	16	7	1,692	11,290	1,263	2,563	7,497	28,538	13,087	40,716	859	2,113	24,919
Pacific.....	22	5	416	2,953	297	577	1,924	6,481	5,764	11,850	( <sup>1</sup> )	414	7,798

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF MINING MACHINERY AND EQUIPMENT SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Mining Machinery and Equipment Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3532--	Mining machinery and equipment, total.....	(X)	326,377	(X)	<sup>r</sup> 275,289
35321--	Underground mining machinery and related mining equipment:				
	As reported in the census of manufactures.....	(X)	<sup>r</sup> 74,468	(X)	64,667
	As reported on Census Form MA-35F, total.....	(X)	<sup>r</sup> 70,663	(X)	(X)
35321 13,15	Cutting machines.....	68	3,257		
35321 47	Coal recovery augers.....	28	2,238	123	5,663
	Loading machines (underground mine):				
35321 33	Gathering arm type.....	127	4,386		
35321 35	Shovel type.....			609	9,210
35321 37	Slusher hoists (scraper loaders).....	449	3,915		
	Continuous mining machines:				
35321 43	Borer type (including underground augering machines).....	<sup>r</sup> 130	<sup>r</sup> 13,414	116	10,736
35321 45	Ripper type (including milling type).....				
35321 73	Shuttle cars—rubber tired, self-propelled.....	<sup>r</sup> 436	<sup>r</sup> 12,616	(NA)	8,547
35321 75	Mine cars, track.....	2,676	4,713	(NA)	6,401
	Mineral classifying, flotation, separating, concentrating, cleaning, clarifying and related equipment:				
35321 52	Flotation machines (quantity represents number of cells).....	1,716	2,335		
35321 54	Jigs.....	19	641		
35321 55	Concentrating tables.....	177	726		
35321 56	Classifiers—sizing, washing, and dewatering (excluding cyclones).....	732	5,720		
35321 57	Wet cyclones (including heavy medium cyclones).....	737	679		
35321 59	Centrifugal driers.....	123	3,250		
35321 61	Scrubbers (all types, including drums, log washers, attritioning machines, etc.).....	107	3,251	(X)	19,223
35321 62	Thermal driers.....	12	1,414		
35321 66	Feeders—apron, vibrating, and reciprocating.....	1,185	3,742		
35321 67	Magnetic separators (quantity represents number of drums).....	252	1,596		
35321 53,58, 63,64,65	Other mineral classifying, flotation, separating, concentrating, cleaning, clarifying, and related equipment.....	(X)	<sup>1</sup> 2,770		
35321 00	Underground mining machinery, not specified by kind.....	(X)	-	(X)	4,887
35322--	Crushing, pulverizing, and screening machinery (stationary):				
	As reported in the census of manufactures.....	(X)	<sup>r</sup> 57,974	(X)	<sup>r</sup> 67,818
	As reported on Census Form MA-35F, total.....	(X)	<sup>r</sup> 56,878	(X)	(X)
	Crushers (including crushers on skids):				
35322 11	Gyratory.....	479	12,461		
35322 13	Impact.....	437	<sup>r</sup> 6,151	<sup>r</sup> 2,114	<sup>r</sup> 234,504
35322 17	Jaw.....	245	<sup>r</sup> 4,526		
35322 19	Roll.....	237	<sup>r</sup> 3,797		
	Grinding mills:				
35322 33	Ball (including pebble mills).....	251	12,466	<sup>r</sup> 3585	<sup>r</sup> 310,727
35322 37	Rod.....	17	1,278		
35322 55	Screens—vibrating, trommell, mine type.....	3,563	16,199	(NA)	<sup>r</sup> 421,464
35322 00	Crushing, pulverizing, and screening plants, not specified by kind.....	(X)	-	(X)	1,123
35323--	All other mining machinery and equipment:				
	As reported in the census of manufactures.....	(X)	38,066	(X)	22,287
	As reported on Census Form MA-35F, total.....	(X)	38,095	(X)	(X)
	Drills:				
35323 23	Rock drills (percussion type).....	10,359	11,776	6,654	3,874
35323 13	Core drills for mineral exploration.....	546	3,569	(NA)	984
	Rotary drills:				
35323 43	Underground (coal and roof).....	137	2,111		
35323 45	Surface (blast hole).....	133	5,453	(X)	16,904
35323 98	Other mining machinery and equipment (complete units).....	(X)	15,186		
35323 00	All other mining machinery and equipment, not specified by kind.....	(X)	-	(X)	525
35324--	Parts and attachments for mining machinery and equipment, total.....	(X)	150,330	(X)	120,517
35324 25	Construction rock drills, portable, hand held or mounted.....	4,794	4,868	12,786	9,669
	Percussion rock drill bits:				
35324 31	Containing tungsten carbide.....	(X)	12,982	(X)	12,155
35324 35	Made entirely of steel.....	(X)	2,440	(X)	7,225
35324 41	Other drills, tools and supplies for drills (sold separately).....	(X)	16,167	(X)	22,743
35324 75	Other parts and attachments for mining machinery and equipment (sold separately).....	(X)	113,300	(X)	71,749
35324 00	Parts and attachments for mining machinery and equipment, not specified by kind.....	(X)	573	(X)	1,976
35320 00	Mining machinery and equipment, not specified by kind.....	(X)	5,539	(X)	-

- Represents zero. (NA) Not available. (X) Not applicable. <sup>r</sup>Revised.<sup>1</sup>Includes figures for dense medium vessels (3532153), centrifuges (3532158), concentrating spirals (3532163), thickeners (3532164) and filters (3532165).<sup>2</sup>Represents crushers and crushing plants.<sup>3</sup>Represents pulverizers and grinders.<sup>4</sup>Represents screening plants, washing plants and combination washing and screening plants.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-35B-3



## INDUSTRY SERIES

preliminary  
report

### Oil field machinery

SIC Code 3533

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Oil Field Machinery Industry had total shipments of \$624 million, an increase of 7 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 12 percent from 1958 and 2 percent from 1962 to a total of 28 thousand employees in 1963. Value added by manufacture amounted to \$378 million in 1963, an increase of 12 percent from 1958 but a decrease of 1 percent from 1962.

The Oil Field Machinery Industry includes establishments engaged primarily in the manufacture of machinery and equipment for use in oil and gas fields, or for drilling water wells.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE OIL FIELD MACHINERY INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3533)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	400	170	27,921	176,781	19,249	39,507	107,909	378,154	243,471	624,046	11,122	(X)
1962.....	(NA)	(NA)	28,454	179,287	18,591	41,034	106,351	381,660	242,222	625,265	(17,556)	4
1961.....	(NA)	(NA)	27,237	169,223	17,708	38,526	98,023	352,644	224,246	587,450	(12,849)	4
1960.....	(NA)	(NA)	31,157	187,416	20,147	43,086	108,295	369,962	249,102	615,108	16,071	3
1959.....	(NA)	(NA)	33,042	194,534	21,934	45,875	114,307	400,068	271,706	654,086	20,203	2
1958.....	389	168	31,878	174,692	20,724	41,215	101,916	336,788	241,854	585,268	18,341	(X)
1954.....	345	158	33,687	161,802	24,143	49,577	102,320	327,509	217,378	542,500	18,188	(X)
1947.....	230	133	29,177	91,532	22,709	47,510	65,083	171,265	117,588	288,853	11,295	(X)
1939.....	239	(NA)	(NA)	(NA)	12,642	(NA)	18,940	58,101	31,451	89,552	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. The figures shown in parenthesis either have associated standard errors exceeding 15 percent or are not consistent with related data. See the Annual Survey of Manufactures volumes for further discussion of sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Oil Field Machinery Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Oil Field Machinery Industry amounted to \$624 million. Of this total, \$46 million were products primary to other industries; and \$83 million were receipts for miscellaneous activities. The industry shipments of primary products represented 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 92 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$539 million of oil field machinery were shipped by all producers of these products. Of this total, \$495 million, or 92 percent, were shipped by plants classified in Industry 3533, Oil Field Machinery while the remainder was shipped plants classified in other industries. The 1958 percentage was 94.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

## 1963 CENSUS OF MANUFACTURES

3

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE OIL FIELD MACHINERY INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3533)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	400	170	27,921	176,781	19,249	39,507	107,909	378,154	243,471	624,046	11,122	31,878	336,788
Northeast.....	13	6	902	5,618	653	1,311	3,698	12,234	7,680	20,054	( <sup>1</sup> )	1,496	12,458
East North Central	23	9	807	4,450	530	1,079	2,764	9,744	6,221	16,647	( <sup>1</sup> )	877	7,609
Ohio.....	11	4	493	2,616	308	627	1,625	4,620	4,067	9,462	( <sup>1</sup> )	524	4,905
West North Central	12	3	487	3,026	333	677	1,643	5,040	7,434	12,524	( <sup>1</sup> )	812	7,237
South.....	274	120	21,951	136,726	15,030	30,818	82,896	287,756	185,457	475,397	8,873	23,473	257,787
Louisiana.....	16	8	708	4,193	565	1,191	2,971	7,584	9,080	16,402	( <sup>1</sup> )	515	5,071
Oklahoma.....	65	22	3,640	21,564	2,646	5,284	14,316	39,169	33,506	74,622	904	4,265	35,955
Texas.....	179	87	17,409	109,684	11,675	24,038	64,773	238,019	141,978	380,889	7,438	18,257	214,409
Mountain.....	13	3	488	3,180	261	534	1,320	5,181	6,832	11,794	( <sup>1</sup> )	569	5,751
Pacific.....	65	29	3,286	23,781	2,442	5,088	15,588	58,199	29,847	87,630	1,548	4,651	45,946

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF OIL FIELD MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Oil Field Machinery Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3533- --	Oil field machinery and equipment, total.....	(X)	539,343	(X)	496,149
35331 --	Rotary oil and gas field drilling machinery and equipment, total.....	(X)	216,645	(X)	<sup>r</sup> 222,014
	Rotary drilling surface equipment:				
35331 11	Blocks, crown and traveling.....	355	1,801	(NA)	1,616
35331 12	Draw works and accessories.....	95	8,541	165	14,904
35331 14	Rotary tables.....	145	962	208	1,430
35331 15	Elevators, spiders, slips, hooks, links, and connectors.....	(X)	6,870	(X)	4,385
35331 16	Swivels and accessories.....	(X)	1,566	(X)	1,447
35331 17	Well control equipment (blow-out preventers, etc.).....	(X)	10,565	(X)	10,852
35331 19	Other rotary drilling surface machinery and equipment.....	(X)	23,490	(X)	11,768
	Rotary drilling subsurface equipment:				
35331 41	Bits.....	629,969	110,122	(NA)	<sup>r</sup> 123,482
35331 42	Reamers.....	(X)	5,923	(X)	6,456
35331 43	Coring equipment.....	(X)	1,153	(X)	4,658
35331 44	Tool joints, subs, and connectors.....	(X)	17,915	(X)	17,913
35331 45	Drill collars.....	11,707	8,136	10,325	9,169
35331 47	Fishing and cutting tools.....	(X)	6,374	(X)	7,025
35331 49	Other subsurface rotary driving equipment, including Kelly joints.....	(X)	12,348	(X)	5,804
35331 00	Rotary oil and gas field drilling machinery and equipment, not specified by kind.....	(X)	879	(X)	1,105
35332 --	Other oil and gas field drilling machinery and equipment, total.....	(X)	38,913	(X)	<sup>r</sup> 43,365
35332 31	Cable tool drilling machinery and equipment (including both surface and subsurface equipment).....	(X)	2,855	(X)	<sup>r</sup> 4,972
	Cementing, floating, guiding, and shoe equipment:				
35332 51	Guide shoes, float collars, and combination guide and float shoes.....	(X)	6,831	(X)	5,621
35332 55	Other cementing equipment.....	(X)	6,969	(X)	18,873
35332 61	Parts for oil and gas field drilling equipment sold separately (except parts for portable drilling rigs).....	(X)	18,295	(X)	13,546
35332 98	Other oil and gas field drilling equipment, except portable.....	(X)	3,963	(X)	353
35333 --	Oil and gas field production machinery and equipment (except pumps), total.....	(X)	234,935	(X)	175,453
	Flowing well equipment, surface and subsurface:				
35333 11	Christmas tree assemblies.....	(X)	14,966	(X)	16,102
35333 13	Casing and tubing heads and supports.....	(X)	11,713	(X)	12,522
35333 15	Chokes, manifolds and other accessories.....	(X)	16,830	(X)	13,926
35333 19	Rodless oil lifting machinery and equipment (other than pumps).....	(X)	7,607		
	Rod lifting machinery and equipment, surface (including pumps when they are components of a complete assembly):				
35333 53	Pumping units and accessories (include back crank equipment).....	8,417	38,293	11,962	39,432
35333 55	Other surface rod lifting machinery and equipment.....	(X)	2,011	(X)	1,748
35333 57	Rod lifting equipment, subsurface, except pumps (quantity represents number of sucker rods shipped).....	2,594,040	24,571	2,379,520	21,365
	Other production machinery and equipment:				
35333 61	Packers.....	(X)	17,280	(X)	9,895
35333 65	Screens, tubing, catchers, etc.....	(X)	8,543	(X)	4,959
35333 71	Oil and gas separating, metering, and treating equipment (quantity represents number of separators).....	16,312	13,911	(S)	11,472
35333 81	Parts for oil and gas field machinery and tools, sold separately, including parts for portable drilling rigs but excluding parts for other drilling equipment.....	(X)	18,372	(X)	10,102
35333 98	Other oil and gas field machinery and tools.....	(X)	56,145	(X)	33,930
35333 00	Oil and gas field production machinery and equipment (except pumps), not specified by kind.....	(X)	4,693	(X)	-
35334 --	Other oil and gas field machinery and tools (except pumps) including water wells drilling equipment and portable drilling rigs, total.....	(X)	38,942	(X)	40,715
	Portable drilling rigs—permanently mounted on truck or trailer:				
	Oil and gas field:				
35334 11	Cable tool.....	122	3,468	235	5,226
35334 13	Rotary rigs.....	298	14,568	275	11,837
	Water well and blast hole:				
35334 15	Cable tool.....	397	2,879	324	2,781
35334 17	Rotary rigs.....	209	6,672	234	6,006
35334 21	Derricks, oil and gas field, substructures, and accessories—regular and portable.....	291	3,909	(S)	2,190
35334 31	Well surveying machinery and equipment.....	(X)	6,629	(X)	1,917
35334 00	Other oil and gas field machinery and tools, not specified by kind.....	(X)	817	(X)	10,758
35330 00	Oil field machinery and equipment, not specified by kind.....	(X)	9,908	(X)	14,602

- Represents zero. (NA) Not available. (S) Does not meet publication standards. (X) Not applicable. <sup>r</sup>Revised



# 1963 CENSUS OF MANUFACTURES

MC63(P)-35B-4



INDUSTRY SERIES

preliminary  
report

## Elevators and moving stairways

SIC Code 3534

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Elevators and Moving Stairways Industry had total shipments valued at \$319 million, an increase of 65 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 29 percent from 1958 to a total of 12 thousand employees in 1963. Value added by manufacture amounted to \$201 million in 1963, an increase of 59 percent from 1958.

The Elevators and Moving Stairways Industry includes establishments engaged primarily in the manufacture of passenger or freight elevators, automobile lifts, dumb waiters, and moving stairways.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE ELEVATORS AND MOVING STAIRWAYS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3534)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)
	Total	With 20 or more employ- ees <sup>1</sup>	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	142	74	12,393	88,389	7,227	15,458	49,625	201,209	114,684	318,622	3,313
1958 .....	144	76	9,626	55,657	5,868	11,764	31,156	126,270	71,106	192,806	2,321
1954 <sup>3</sup> .....	131	66	10,257	49,518	7,017	14,164	31,766	99,763	64,603	167,494	1,429
1947 <sup>3</sup> .....	111	62	10,227	33,998	7,317	15,331	22,890	68,614	33,201	101,815	1,855
1939 <sup>3</sup> .....	101	(NA)	(NA)	(NA)	3,591	(NA)	5,111	16,945	9,871	26,816	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Elevators and Moving Stairways Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Elevators and Moving Stairways Industry amounted to \$319 million. Of this total, \$10 million were products primary to other industries; and \$75 million were receipts for miscellaneous activities. The industry shipments of primary products represented 96 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 97 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$248 million of elevators and moving stairways were shipped by all producers of these products. Of this total, \$234 million, or 94 percent, were shipped by plants classified in Industry 3534, Elevators and Moving Stairways while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 80.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.



PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE ELEVATORS AND MOVING STAIRWAYS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3534)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	142	74	12,393	88,389	7,427	15,458	49,625	201,209	114,684	318,622	3,313	9,626	126,270
New England.....	8	6	424	3,154	298	610	1,836	4,344	3,097	7,256	(1)	293	2,225
Middle Atlantic...	30	18	7,035	52,863	4,389	9,293	31,902	137,498	63,065	205,244	1,667	4,913	85,000
North Central.....	60	26	2,648	16,900	1,611	3,198	9,351	31,321	25,279	56,138	827	2,591	22,705
Ohio.....	15	7	1,182	7,397	702	1,386	3,920	12,332	11,415	23,617	513	1,260	10,519
Indiana.....	7	4	262	1,435	188	381	1,039	3,775	4,032	7,724	(D)	128	2,440
South.....	18	13	1,410	8,924	685	1,448	3,670	14,488	11,788	25,684	(1)	1,050	7,753
West.....	26	11	876	6,548	444	909	2,866	13,558	11,455	24,300	(1)	779	8,587
California.....	19	9	790	5,741	397	820	2,499	12,079	9,595	21,202	(1)	622	7,108

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF ELEVATORS AND MOVING STAIRWAYS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Elevators and Moving Stairways Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3534--	Elevators and moving stairways, total.....	(X)	247,731	(X)	165,277
	Elevators (except farm and portable):				
35340 11	Electric passenger (except residence lifts).....	5,930	108,077	2,985	61,534
35340 12	Hydraulic passenger.....	2,182	13,332	1,029	5,270
35340 13	Electric freight.....	1,018	10,805	1,325	16,247
35340 15	Hydraulic freight.....	2,532	11,604	2,203	7,105
35340 31	Automobile lifts (service station and garage type).....	34,025	19,710	21,125	13,793
35340 51	Moving stairways and escalators.....	672	12,691	1,395	6,587
35340 96	Other nonfarm elevators (includes sidewalk elevators, dumb-waiters, man lifts, hand-operated freight elevators, residence lifts, etc.).....	(X)	9,944	(X)	45,971
35340 97	Parts and attachments for elevators and moving stairways (sold separately).....	(X)	53,680		
35340 00	Elevators and moving stairways, not specified by kind.....	(X)	7,888	(X)	8,770

(X) Not applicable. <sup>R</sup>Revised.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR ELEVATORS AND MOVING STAIRWAYS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3534--	Elevators and moving stairways.....1963...	174	111
	.....1958...	109	118

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35B-5



INDUSTRY SERIES

preliminary  
report

Conveyors

SIC Code 3535

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Conveyors Industry had total shipments valued at \$487 million, an increase of 26 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of approximately 1 percent from 1958 and 3 percent from 1962 to a total of 21 thousand employees in 1963. Value added by manufacture amounted to \$264 million in 1963, an increase of 37 percent from 1958 and 6 percent from 1962.

The Conveyors Industry includes establishments engaged primarily in the manufacture of gravity conveyors, overhead trolley conveyor systems, pneumatic tube systems, portable conveyors, underground mine conveyors, and other bulk material and package (unit) conveyors, as well as parts and attachments for these products.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.--GENERAL STATISTICS FOR THE CONVEYORS INDUSTRY FOR SELECTED YEARS  
(SIC code 3535)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	453	173	20,614	139,406	12,541	26,158	73,437	264,036	228,202	486,529	6,027	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	21,227	137,017	12,704	25,208	70,939	249,154	215,808	460,279	9,060	5
1961 <sup>2</sup> .....	(NA)	(NA)	19,851	121,393	11,498	23,688	61,427	215,282	181,905	399,789	(6,116)	4
1960 <sup>2</sup> .....	(NA)	(NA)	21,490	132,507	12,568	26,501	69,237	239,983	203,949	439,728	5,981	3
1959 <sup>2</sup> .....	(NA)	(NA)	21,436	129,558	13,043	26,138	67,658	229,379	198,528	425,397	4,524	2
1958.....	420	150	20,789	119,431	12,698	25,584	62,578	192,892	186,979	385,714	7,197	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

January 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director





and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees is as follows: Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. Production workers are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

### VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Conveyors Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries),

and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Conveyors Industry amounted to \$487 million. Of this total, \$74 million were products primary to other industries; and \$77 million were receipts for miscellaneous activities. The industry shipments of primary products represented 82 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 81 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$407 million of conveyors were shipped by all producers of these products. Of this total, \$335 million, or 82 percent, were shipped by plants classified in Industry 3535, Conveyors, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 78.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in



## 1963 CENSUS OF MANUFACTURES

3

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5

years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE CONVEYORS INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3535)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	453	173	20,614	139,406	12,541	26,158	73,437	264,036	228,202	486,529	6,027	20,789	192,892
New England.....	18	5	296	1,957	207	441	1,153	3,843	2,644	6,436	(1)	284	2,018
Massachusetts....	13	5	258	1,660	182	383	977	3,379	2,414	5,742	(1)	222	1,510
Middle Atlantic...	92	35	5,812	38,008	3,272	6,739	19,081	76,091	70,453	144,305	1,711	5,694	56,689
New York.....	29	12	1,157	7,494	692	1,406	4,027	14,594	10,828	25,159	(1)	1,254	13,292
New Jersey.....	29	10	1,241	8,311	744	1,564	4,171	14,627	23,544	37,336	547	1,686	13,922
Pennsylvania....	34	13	3,414	22,203	1,836	3,769	10,883	46,870	36,081	81,810	742	2,754	29,475
East North Central	178	73	8,389	61,113	5,207	10,853	33,033	110,591	93,984	202,927	2,425	8,822	84,133
Ohio.....	38	17	1,793	11,187	1,072	2,293	5,692	19,343	19,252	38,172	587	1,527	12,670
Illinois.....	53	17	2,205	15,297	1,372	2,912	8,867	27,646	21,908	49,474	572	3,103	33,104
Michigan.....	57	28	3,607	29,649	2,196	4,500	15,402	55,045	46,300	99,708	1,087	3,394	30,572
Wisconsin.....	17	8	621	4,067	451	923	2,477	7,585	5,591	13,625	(1)	704	7,072
West North Central	45	17	1,745	11,919	1,004	2,154	5,650	21,309	16,117	36,958	506	1,510	14,765
Minnesota.....	13	4	560	3,252	320	604	1,664	5,889	5,550	11,471	(1)	487	4,359
Missouri.....	12	4	520	3,787	309	677	1,779	6,597	4,572	11,121	(1)	478	4,373
South Atlantic....	19	6	741	4,516	452	901	2,092	10,978	9,871	20,821	(1)	724	6,594
East South Central	18	9	1,619	8,820	1,180	2,543	5,614	19,851	14,755	33,880	514	1,989	11,908
Kentucky.....	8	4	873	5,399	629	1,294	3,348	10,156	5,967	15,834	(1)	672	5,631
West South Central	24	10	762	4,373	495	1,029	2,228	6,984	6,338	13,196	(1)	521	4,101
Texas.....	11	6	536	3,010	337	719	1,415	4,956	4,649	9,480	(1)	400	2,978
Pacific.....	49	15	1,122	7,835	652	1,336	4,115	12,737	12,841	25,242	(1)	1,121	11,689
California.....	38	13	942	6,652	528	1,090	3,373	10,910	11,167	21,831	(1)	1,022	10,787

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final Census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table .--VALUE OF CONVEYORS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 196, AND 1958

(Includes value of these products reported not only by establishments classified in the Conveyor Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3535 ---	Conveyors and conveying equipment, total.....	407,343	333,877
35351 --	Conveyors and conveying equipment (except hoists and farm elevators).....	301,675	247,994
35351 11	Gravity conveyors (skate, wheel, and roller).....	29,961	20,129
35351 31	Overhead trolley conveyor systems.....	38,131	19,486
35351 41	Pneumatic tube systems, including foot-power units.....	13,530	12,720
35351 51	Portable conveyors (except farm).....	13,073	8,633
35351 61	Underground mine conveyors and conveying systems.....	11,649	11,066
	Other conveyors and conveying systems (includes specially engineered conveyor installations):		
35351 71	Bulk material conveyors.....	113,869	117,720
35351 73	Package (unit) conveyors.....	76,547	47,730
35351 00	Conveyors and conveying equipment (except hoists), not specified by kind.....	4,915	10,510
35352 11	Parts, attachments, and accessories for conveyors and conveying systems (sold separately).....	87,997	72,021
35350 00	Conveyors and conveying equipment (including parts), not specified by kind.....	17,671	13,862

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35B-6



## INDUSTRY SERIES

**preliminary  
report**

### Hoists, cranes, and monorails

SIC Code 3536

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Hoists, Cranes, and Monorails Industry shipped products valued at \$220 million, an increase of 19 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of approximately 1 percent from 1958 to a total of 9.6 thousand employees in 1963. Value added by manufacture amounted to \$112 million in 1963, an increase of 21 percent from 1958.

The Hoists, Cranes and Monorails Industry includes establishments engaged primarily in the manufacture of overhead traveling cranes, hoists, and monorail systems for installation in factories, warehouses, and other industrial and commercial establishments.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent

Table 1.—GENERAL STATISTICS FOR THE HOISTS, CRANES, AND MONORAILS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3536)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	119	56	9,577	64,253	6,771	13,971	41,399	112,333	110,934	219,925	2,645
1958 <sup>3</sup> .....	81	54	9,520	53,566	6,555	12,988	32,840	92,759	85,484	184,722	5,056

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees is as follows: Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll periods ended nearest the 15th of March. Production workers, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

### VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Hoists, Cranes, and Monorails Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total

value of shipments and other receipts of establishments classified in the Hoists, Cranes, and Monorails Industry amounted to \$220 million. Of this total, \$39 million were products primary to other industries; and \$24 million were receipts for miscellaneous activities. The industry shipments of primary products represented 80 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 79 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$223 million of hoists, cranes, and monorails were shipped by all producers of these products. Of this total, \$157 million, or 70 percent, were shipped by plants classified in Industry 3536, Hoists, Cranes, and Monorails while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 78.

### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports

## 1963 CENSUS OF MANUFACTURES

3

will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE HOISTS, CRANES, AND MONORAILS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3536)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	119	56	9,577	64,253	6,771	13,971	41,399	112,333	110,934	219,925	2,645	9,520	92,759
Northeast.....	24	11	1,414	8,796	923	1,840	5,132	18,910	10,533	28,236	(1)	1,346	13,032
East North Central.....	40	22	5,455	37,943	3,905	8,225	24,957	59,722	70,990	129,743	1,049	6,093	58,309
Ohio.....	15	12	2,739	18,703	1,915	3,805	11,632	26,542	38,551	65,016	(1)	2,705	29,009
Illinois.....	8	4	1,193	9,432	855	1,937	6,147	17,026	17,019	33,264	(1)	1,490	12,042
Michigan.....	9	3	1,134	7,373	846	1,880	5,614	13,610	11,384	24,497	(D)	1,205	12,369
West North Central.....	7	4	459	3,060	273	560	1,451	5,973	5,432	11,454	(1)	545	5,822
South.....	13	7	857	4,974	645	1,312	3,111	11,194	8,515	18,774	586	538	4,467
West.....	35	12	1,392	9,480	1,025	2,034	6,748	16,534	15,464	31,718	599	998	11,129
Washington.....	7	4	843	5,795	615	1,203	4,127	9,886	9,270	18,860	(1)	295	3,362

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF HOISTS, CRANES, AND MONORAILS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Hoists, Cranes, and Monorails Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Number of units)	Value (\$1,000)	Quantity (Number of units)	Value (\$1,000)
3536- --	Hoists, industrial cranes, and monorail systems, total.....	(X)	222,593	(X)	165,544
35361 --	Hoists, total.....	(X)	104,892	(X)	59,401
35361 12	Hand and electric chain hoists.....	164,360	21,871	134,877	17,589
35361 14	Mine shaft and slope electric wire-rope hoists.....	220	13,015	(NA)	1,325
35361 16	Other electric wire-rope hoists.....	22,661	18,687	17,645	14,557
35361 37	Air hoists.....	11,390	10,120	5,015	5,590
35361 38	Other hoists.....	98,530	34,681	59,184	20,340
35361 45	Parts and attachments for hoists (sold separately).....	(X)	16,133	(X)	(NA)
35361 00	Hoists, not specified by kind.....	(X)	385	(X)	-
35362 --	Overhead traveling cranes and monorail systems, total.....	(X)	115,512	(X)	106,143
	Cranes (except construction power cranes):				
	Electric overhead traveling:				
35362 12	Bridge type.....	3,086	78,918	3,020	83,996
35362 13	Jib type.....	965	866		
35362 14	Other.....	697	6,730		
35362 15	Hand power overhead traveling.....	1,985	2,317	805	1,027
35362 53	Monorail systems.....	2,778	13,174	4,140	20,385
35362 55	Parts and attachments for overhead traveling cranes and monorail systems (sold separately).....	(X)	13,049	(X)	(NA)
35362 00	Overhead traveling cranes and monorail systems, not specified by kind..	(X)	458	(X)	735
35360 00	Hoists, industrial cranes, and monorail systems, not specified by kind...	(X)	2,189	(X)	-

- Represents zero.

(NA) Not available.

(X) Not applicable.

<sup>2</sup>Revised.

<sup>1</sup>Comparable data were also collected on Census Annual Form MA35F, "Mining Machinery and Equipment." Data collected in the Census of Manufactures indicate a degree of undercoverage in the MA35F Annual Commodity Survey.

<sup>2</sup>For 1958, this value includes parts and attachments for monorail systems.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR HOISTS, INDUSTRIAL CRANES, AND MONORAIL SYSTEMS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3536-	Hoists, industrial cranes, and monorail systems.....1963...	144	97
	.....1958...	83	124
35361	Hoists.....1963...	159	120
	.....1958...	86	125
35362	Overhead traveling cranes and monorail systems.....1963...	136	82
	.....1958...	82	124

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35B-7



INDUSTRY SERIES

preliminary  
report

## Industrial trucks and tractors

SIC Code 3537

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Industrial Trucks and Tractors Industry shipped products valued at \$438 million, an increase of 63 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 18 percent from 1958 to a total of 17 thousand employees in 1963. Value added by manufacture amounted to \$223 million in 1963, an increase of 90 percent from 1958.

The Industrial Trucks and Tractors Industry includes establishments engaged primarily in the manufacture of industrial trucks, tractors, stackers (truck type) and related equipment, used in handling materials on paved surfaces in and around industrial and commercial plants, depots, docks, and terminals.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.--GENERAL STATISTICS FOR THE INDUSTRIAL TRUCKS AND TRACTORS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3537)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963.....	313	107	17,373	109,302	11,305	23,556	63,720	223,056	216,967	438,254	6,659
1958.....	262	96	14,786	76,200	9,545	18,121	42,982	117,500	140,421	269,328	3,344
1954 <sup>2</sup> .....	245	96	15,797	71,824	11,061	22,123	44,813	124,455	132,206	260,063	7,088
1947 <sup>2</sup> .....	196	78	13,926	41,908	10,603	22,460	29,530	81,517	80,634	162,151	(NA)
1939 <sup>2</sup> .....	70	(NA)	(NA)	(NA)	3,652	(NA)	4,576	13,181	17,174	30,355	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Industrial Trucks and Tractors Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Industrial Trucks and Tractors Industry amounted to \$438 million. Of this total, \$34 million were products primary to other industries; and \$33 million were receipts for miscellaneous activities. The industry shipments of primary products represented 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 93 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$459 million of industrial trucks and tractors were shipped by all producers of these products. Of this total, \$371 million, or 81 percent, were shipped by plants classified in Industry 3537, Industrial Trucks and Tractors, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 84.

### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.



GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports

will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE INDUSTRIAL TRUCKS AND TRACTORS INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3537)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	313	107	17,373	109,302	11,305	23,536	63,720	223,036	216,967	438,254	6,659	14,786	117,500
New England.....	10	4	890	4,663	658	1,297	3,330	10,409	5,810	16,199	( <sup>1</sup> )	936	8,174
Middle Atlantic...	58	19	3,660	24,432	2,128	4,593	12,968	48,900	34,230	79,907	1,274	3,621	33,020
Pennsylvania....	23	7	2,772	19,149	1,537	3,369	10,039	34,385	23,329	55,760	891	3,050	27,013
East North Central	98	41	8,113	53,325	3,251	10,848	31,838	113,025	124,472	239,178	3,298	6,254	48,201
Ohio.....	34	15	3,145	21,421	1,933	4,164	12,457	34,959	41,377	79,118	959	2,159	17,861
Illinois.....	23	9	2,406	15,410	1,550	3,261	8,980	40,688	31,366	71,641	(D)	1,774	11,286
Michigan.....	23	11	2,183	14,346	1,436	2,848	7,047	32,166	46,991	78,525	940	1,927	16,488
West North Central	24	7	616	2,927	426	839	1,717	5,033	4,799	9,802	( <sup>1</sup> )	600	4,250
South Atlantic....	21	7	497	2,224	406	858	1,555	5,049	4,887	9,900	( <sup>1</sup> )	587	2,960
East South Central	12	6	740	3,314	560	1,188	2,115	7,371	8,794	15,718	( <sup>1</sup> )	416	2,677
West South Central	16	4	461	2,418	337	792	1,532	5,186	3,374	8,623	( <sup>1</sup> )	195	1,644
West.....	74	19	2,396	15,999	1,539	3,121	8,665	28,065	30,601	58,927	848	2,177	16,594
Oregon.....	11	5	1,300	8,308	786	1,550	4,468	13,057	17,512	31,252	( <sup>1</sup> )	940	5,592
California.....	57	13	1,044	6,754	713	1,509	3,933	14,396	12,746	26,724	503	1,028	9,518

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.  
<sup>1</sup> Less than \$500 thousand.



Table 3A.--QUANTITY AND VALUE OF INDUSTRIAL TRUCKS AND TRACTORS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Industrial Trucks and Tractors Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3537- --	Industrial trucks, tractors, trailers, and stackers, total.....	(X)	459,465	(X)	276,674
35370 11	Powered trucks and tractors: Trucks (operator walking).....	10,865	21,276	10,595	15,702
35370 21	Trucks (operator riding) and tractors: Electric (storage battery): Fork trucks.....	8,017	45,550	3,321	19,524
35370 29	Other industrial trucks and tractors.....	(X)	6,652	(X)	3,333
35370 31	Gasoline: Fork trucks.....	28,080	178,232	16,386	95,312
35370 33	Trucks (except fork).....	477	3,728	631	3,358
35370 35	Tractors.....	1,659	6,625	3,221	12,810
35370 41	All other trucks (operator riding) and tractors, including Diesel, compressed-air powered, etc.....	(X)	14,453	(X)	5,901
35370 51	Portable elevators (stackers) excluding farm type.....	3,769	4,313	2,870	3,771
35370 61	Hard trucks and trailers, including dollies and platform trucks: Hand lift.....	(X)	10,000	(X)	11,366
35370 65	Other hand trucks and trailers, including two wheel, four wheel, dollies, and platform trucks.....	(X)	32,177	(X)	30,395
35370 71	Metal pallets and skids (excluding wood and metal combination).....	(X)	12,098	(X)	6,786
35370 81	Parts and attachments and miscellaneous equipment (sold separately).....	(X)	91,737	(X)	44,752
35370 00	Industrial trucks and trailers, not specified by kind.....	(X)	32,624	(X)	23,604

\*Revised.

(X) Not applicable.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR INDUSTRIAL TRUCKS, AND TRACTORS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3537	Industrial trucks, tractors, trailers, and stackers.....		
	1963...	125	144
	1958...	81	133

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35C-1



## INDUSTRY SERIES

**preliminary  
report**

### Metal-cutting machine tools

SIC Code 3541

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Metal-cutting Machine Tools Industry had total shipments valued at \$1,056 million, an increase of 55 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 15 percent from 1958 and 3 percent from 1962 to a total of 61 thousand employees in 1963. Value added by manufacture amounted to \$695 million in 1963, an increase of 65 percent from 1958 and 4 percent from 1962.

The Metal-cutting Machine Tools Industry includes establishments engaged primarily in the manufacture of power driven machines, not supported in the hands of an operator when in use, that shape metal by cutting away chips; the rebuilding of such machine tools, as well as the manufacture of replacement parts for them. Metalworking, or primarily metalworking, machine tools designed primarily for home workshops are also included.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE METAL-CUTTING MACHINE TOOLS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3541)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>2</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	800	268	61,088	438,145	41,089	86,509	266,827	694,839	381,350	1,055,923	28,823	(X)
1962.....	(NA)	(NA)	58,855	401,810	39,253	81,217	235,035	670,989	332,974	982,118	26,643	3
1961 <sup>2</sup> .....	(NA)	(NA)	54,901	352,976	36,373	72,714	201,457	550,119	281,459	828,413	18,668	2
1960 <sup>2</sup> .....	(NA)	(NA)	58,777	370,894	39,487	80,918	223,825	578,210	311,832	881,676	24,770	2
1959 <sup>2</sup> .....	(NA)	(NA)	52,797	329,497	35,436	72,165	201,991	505,433	262,198	753,784	22,152	1
1958.....	627	231	52,864	300,344	36,154	69,619	182,171	420,961	217,738	679,836	18,840	(X)
1954 <sup>3</sup> .....	639	266	80,959	432,290	62,106	133,247	302,682	743,569	377,535	1,171,543	37,683	(X)
1947 <sup>3</sup> .....	315	209	70,001	233,997	54,435	113,432	165,003	343,198	150,655	493,853	(NA)	(X)
1939 <sup>3</sup> .....	224	(NA)	(NA)	(NA)	36,997	(NA)	62,867	155,941	65,326	221,267	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Metal-cutting Machine Tools Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Metal-cutting Machine Tools Industry amounted to \$1,056 million. Of this total, \$185 million were products primary to other industries; and \$70 million were receipts for miscellaneous activities. The industry shipments of primary products represented 81 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 85 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$918 million of metal-cutting machine tools were shipped by all producers of these products. Of this total, \$801 million, or 87 percent, were shipped by plants classified in Industry 3541, Metal-cutting Machine Tools, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 89.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports



## 1963 CENSUS OF MANUFACTURES

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will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809.

For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE METAL-CUTTING MACHINE TOOLS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3541)													
Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture <sup>1</sup>
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	800	268	61,088	438,145	41,089	86,509	266,827	694,839	381,350	1,055,923	28,823	52,864	420,961
New England.....	111	39	14,853	102,430	10,371	21,333	63,132	159,817	82,127	238,161	5,957	12,134	88,982
Vermont.....	5	4	3,692	25,166	2,500	4,920	14,056	38,016	18,358	54,977	1,998	3,289	18,528
Massachusetts...	34	12	3,738	25,720	2,338	4,892	13,651	38,601	15,010	52,408	1,331	4,400	31,939
Connecticut.....	60	19	4,326	32,202	3,336	7,203	23,188	52,921	35,912	87,948	1,351	3,699	32,522
Middle Atlantic...	162	39	7,065	49,210	5,261	11,025	33,713	85,142	32,987	115,439	3,813	6,322	48,081
New York.....	65	18	5,004	35,752	3,698	7,617	24,334	62,342	21,969	81,951	2,493	4,756	36,944
New Jersey.....	49	9	532	3,574	404	878	2,453	5,608	3,430	9,093	(1)	471	3,651
Pennsylvania....	48	12	1,529	9,884	1,159	2,530	6,926	17,192	7,588	24,395	1,105	1,095	7,486
East North Central	388	162	36,951	272,072	23,833	50,758	160,589	425,145	251,108	662,763	17,856	32,509	267,130
Ohio.....	102	43	15,343	110,025	9,210	19,271	59,010	178,485	97,713	272,923	6,477	15,063	121,456
Indiana.....	19	5	1,634	11,654	1,284	2,934	8,796	19,649	11,784	29,920	704	1,344	12,627
Illinois.....	84	36	6,691	47,981	4,315	9,736	28,158	71,458	41,259	108,683	1,972	6,281	50,946
Michigan.....	152	59	8,084	64,992	5,781	12,345	43,069	103,426	66,382	165,745	4,588	5,587	45,705
Wisconsin.....	31	19	5,199	37,420	3,243	6,472	21,556	52,127	33,970	85,492	4,115	4,234	36,396
West North Central	24	11	547	3,380	431	886	2,257	4,913	2,771	7,701	(1)	912	6,796
South.....	26	4	463	2,709	374	843	2,023	5,925	3,182	8,875	(1)	465	5,011
West.....	89	13	1,209	8,344	819	1,664	5,113	13,897	9,175	22,984	542	522	4,961
California.....	75	11	1,062	7,573	705	1,460	4,556	13,025	8,381	21,295	(1)	455	4,495

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF METAL-CUTTING MACHINE TOOLS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Metal-cutting Machine Tools Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3541- --	Metal-cutting machine tools, total.....	(X)	918,341	(X)	592,549
35411 --	Boring machines:				
	As reported in the census of manufactures <sup>1</sup> .....	r (X)	r 67,445	(X)	52,791
	As reported on Census Form M35W <sup>1</sup> .....	1,750	67,930	1,403	51,563
	Horizontal boring, drilling, and milling machines:				
35411 11	Table type.....	144	12,625	215	11,114
35411 15	Floor type (including rail mounted)*.....			47	5,215
35411 13, 19	All other horizontal boring, drilling, and milling machines, including rotary table type (built-in table).....	137	5,800	17	1,527
	Vertical boring and turning mills (including vertical turret lathes):				
35411 21	Standard type.....				
35411 23	Widened, raised, extended, and fixed rail types.....				
35411 25	Multiple work holders (multislide).....	168	15,709	170	14,471
35411 29	All other vertical boring and turning mills.....				
	Precision boring machines:				
35411 51, 53	Horizontal (bridge and way types).....	319	11,689		
35411 55	Vertical type.....	92	3,725	428	9,971
35411 59	All other precision boring machines.....				
35411 71-73	Jig boring machines.....	499	17,000	260	4,931
35411 91-99	All other boring machines*.....	391	1,382	266	4,334
35412 --	Drilling machines:				
	As reported in the census of manufactures <sup>1</sup> .....	r (X)	r 54,831	(X)	30,949
	As reported on Census Form M35W <sup>1</sup> .....	24,358	52,018	11,520	30,023
	Sensitive drilling machines:				
35412 11	Bench type:				
	Average value under \$1,000.....	5,787	1,344	4,434	951
	Average value \$1,000 or over.....	450	632	38	88
35412 15	Floor and pedestal type:				
	Average value under \$1,000.....	544	191	1,058	332
	Average value \$1,000 or over.....	1,089	5,105	1,374	2,507
	Vertical (upright) drilling machines:				
35412 21	Plain-upright:				
	Average value under \$1,000.....	13,429	2,195	2,770	1,039
	Average value \$1,000 or over.....	222	796	140	289
35412 23	Heavy duty (manufacturing).....	177	1,010	196	240
35412 25-29	All other vertical (upright) drilling machines, including indexing turret head.....	256	6,577	79	198
35412 31-49	Radial drilling machines.....	2,476	24,977	614	5,607
	Multiple spindle drilling machines (cluster of spindles driven from one central power unit):				
35412 51	Adjustable joint.....	174	2,107		
35412 53-55	Fixed center and rail mounted.....	241	2,935		
35412 61	Automatic drilling machines (combination, horizontal-vertical, opposed heads).....	2,267	211,821	348	8,911
35412 69	All other automatic multiple-spindle drilling machines.....	22	668		
35412 81-99	All other drilling machines, including deep-hole drilling machines.....	21,424	213,660	469	9,861
35413 --	Gear cutting machines:				
	As reported in the census of manufactures <sup>1</sup> .....	r (X)	r 40,910	(X)	23,501
	As reported on Census Form M35W (all with an average value over \$1,000)*.....	1,371	39,534	806	22,661
35413 71	Gear tooth finishing machines.....	531	11,674	157	4,406
35413 11-13	Gear hobbers.....	279	7,501	227	5,733
35413 31-59, 99	All other gear cutting machines.....	561	20,359	422	12,522
35414 --	Grinding and polishing machines (except gear-tooth grinding, lapping, polishing and buffing machines):				
	As reported in the census of manufactures <sup>1</sup> .....	r (X)	r 143,266	(X)	91,430
	As reported on Census Form M35W <sup>1</sup> .....	52,446	136,770	52,925	89,367
	External cylindrical grinding machines:				
35414 11	Plain.....	225	7,097	194	5,466
35414 13	Universal.....	318	6,695	247	4,599
35414 15	Roll grinders.....	75	5,690	29	3,636
35414 16	Centerless grinders.....	408	10,065		
35414 19	All other external cylindrical grinding machines.....	311	15,637	630	12,337
	Surface grinding machines:				
35414 31	Rotary table type.....	583	7,830	639	7,695
35414 33	Reciprocating table type (including face grinders).....	44,229	20,098	2,358	10,270
35414 39	All other surface grinding machines (including planer type).....	50	232	(3)	(3)
	Bench, floor, and snag grinders:				
35414 43	Bench (all with an average value under \$1,000).....	28,136	1,737	33,152	1,908
35414 45	Floor and snag grinders:				
	Average value under \$1,000.....	2,897	704		
	Average value \$1,000 or over.....	122	279	3,063	950
	Tool and cutter grinding machines:				
35414 51	Universal.....	41,106	44,173	937	2,543
35414 55	Special (broach, drill, mill, saw, hob, and tap):				
	Average value under \$1,000.....	1,400	638	893	279
	Average value \$1,000 or over.....	777	5,427	1,062	3,737

See footnotes at end of table.

Table 3.—QUANTITY AND VALUE OF METAL-CUTTING MACHINE TOOLS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
35414 --	Grinding and polishing machines (except gear tooth grinding, lapping, polishing and buffing machines)—Continued				
	As reported on Census Form M35W—Continued				
35414 65	Polishing and buffing machines:				
	Floor type:				
	Average value under \$1,000.....	426	133	349	127
	Average value \$1,000 or over.....	721	2,148	568	2,647
35414 61	Bench type*.....	1,345	143		
35414 66	Speed lathes*.....	391	146		
35414 67	Swing frame, sheet metal and tube polishing.....	4147	4936		
35414 63, 69	All other polishing and buffing machines (including abrasive belt, drum, and disc lathes):			1,253	2,839
	Average value under \$1,000.....	811	296		
	Average value \$1,000 or over.....	606	4,875		
35414 75	Honing and lapping machines:				
35414 76-81	Honing machines (except gear honing), internal*.....	1,718	4,661	646	2,437
	All other honing and lapping machines (including external and combination boring and turning honing machines and flat and cylindrical surface lapping machines, except gear lapping)*.....	4438	42,736	287	1,665
35414 21-25, 41, 49, 71, 91-99	All other grinding machines (including internal cylindrical, disc, and thread grinders):				
	Average value under \$1,000.....	43,520	4793		
	Average value \$1,000 or over.....	1,686	33,601	36,618	326,232
35415 --	Lathes:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	163,496	(X)	98,599
	As reported on Census Form M35W <sup>1</sup> .....	19,656	154,763	16,983	98,679
35415 11	Bench lathes (except bench turret lathes)*.....	5,299	4,991	6,700	2,247
	Manufacturing and tool room lathes:				
	Floor-engine-tool room (light and heavy duty):				
	Up to and including 16" swing over cross slide:				
	Average value under \$1,000.....	2,183	1,864		
	Average value \$1,000 or more.....	6,823	33,333	5,562	18,723
35415 21	17" to 23" swing.....	324	6,471	526	6,075
35415 25	24" to 36" swing.....	46	1,980	107	4,302
35415 29	Over 36" swing.....	9	857	18	2,431
35415 33-39	All other manufacturing and tool room lathes, including gap, manufacturing (multitool automatics) and hollow spindle (oil field).....	7180	73,267	( <sup>5</sup> )	( <sup>5</sup> )
35415 51-53	Turret lathes:				
35415 55	Bench and floor light duty type with turret attachment, and ram type.....	71,361	711,649	6513	67,349
	Saddle type.....	123	5,366	142	5,807
35415 61	Automatic chucking lathes:				
35415 65	Single spindle.....	695	25,413	304	9,639
	Multiple spindle.....	195	16,233	152	8,335
35415 71	Automatic between center lathes:				
35415 75	Single spindle.....	174	5,757	155	5,092
	Multiple spindle.....				
35415 81, 88	Screw (bar) machines.....	1,278	30,494	901	14,743
35415 77, 87, 89-99	All other lathes (including right angle carriage lathes (T-lathes) and boring and combination boring and turning lathes).....	7966	77,088	51,903	513,936
35416 --	Milling machines:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	112,727	(X)	89,406
	As reported on Census Form M35W <sup>1</sup> .....	16,657	106,126	11,004	89,315
35416 11	Bench and hand milling machines (including knee-type bench milling machines):				
	Average value under \$1,000.....	1,087	458		
	Average value \$1,000 or over.....	399	1,179	476	703
	Knee-type milling machines (except bench type):				
	Horizontal:				
	Plain.....	609	10,729	499	5,631
	Universal.....	206	3,604	201	2,812
	Vertical:				
	2 horsepower and under.....	87,800	815,932	5,799	14,762
	Over 2 horsepower.....	252	5,574		
35416 29	All other knee-type milling machines.....	843	8483	(NA)	(NA)
35416 31	Bed type milling machines:				
35416 35	Single spindle.....	384	7,087	242	3,514
	Multiple spindle and special purpose machines.....	142	16,054	179	20,279

See footnotes at end of table.



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Table 3.—QUANTITY AND VALUE OF METAL-CUTTING MACHINE TOOLS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
35416 --	Milling machines—Continued				
	As reported on Census Form M35W—Continued				
35416 41	Planer type milling machines.....	23	4,113	20	4,305
35416 51	Profile machines and duplicators.....	434	14,637	363	21,840
35416 57	Die sinking machines.....	379	2,740		
35416 61	Thread milling machines.....	13	419	17	591
35416 95	Engraving machines, drum type millers, cam millers, and pantograph millers.....	874	8,460	3,208	14,878
35416 71	Ram type.....	777	4,725		
35416 53-55, 91-93, 99	All other milling machines (including skin millers and spar millers).....	84,061	817,932		
35418 --	Other machine tools (including those designed primarily for home workshops, laboratories, garages, etc.), total <sup>9</sup> .....	(X)	150,260	(X)	98,270
	Products in the census of manufactures and on Census Form M35W:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	94,409	(X)	86,679
	As reported on Census Form M35W <sup>1</sup> .....	23,658	100,466	(NA)	82,720
	Broaching machines:				
	Hydraulic:				
35417 11	Horizontal.....	50	2,078	109	4,377
35417 12, 13	Vertical and rotary.....	72	2,697		
	Mechanical:				
35417 14, 15	Horizontal and vertical.....	36	2,610	67	3,607
35417 16	Continuous chain type.....				
35417 19	All other broaching machines.....	31	1,286		
35417 31-39	Planers (including double housing, die block and open side).....				
	Shapers (except gear shapers) and slotters:				
	Horizontal (plain and universal):				
35417 41	Under 16" stroke.....	385	417	495	2,306
35417 43	16" stroke and over.....	130	1,360		
35417 45, 49	Vertical and other shapers and slotters.....	(10)	(10)		
	Sawing and cut-off machines:				
	Power hack saws:				
35417 61	Average value under \$1,000.....	2,156	338	2,309	301
	Average value \$1,000 or over.....	499	1,711	699	1,063
35417 63	Circular cut-off saws.....	11130	111,177	39	353
35417 65	Abrasive cut-off saws:				
	Average value under \$1,000.....	1,178	629	942	506
	Average value \$1,000 or over.....	502	1,922	425	1,020
35417 67	Band saw cut-off saws.....	11984	116,898	(11)	(11)
35417 69	All other sawing and cut-off machines:				
	Average value under \$1,000.....	115,228	112,796	113,546	111,772
	Average value \$1,000 or over.....	233	3,661	111,303	115,127
	Tapping machines:				
35417 72	Vertical.....	12204	12807	388	1,903
35417 73	Horizontal and radial arm.....				
35417 74, 79	All other tapping machines (including nut, coupling, and shell).....	12163	121,753		
35417 71	Countour sawing and filing machines (including band type):				
	Average value under \$1,000.....	4,165	987	1,936	516 <sup>e</sup>
	Average value \$1,000 or over.....	1,534	5,020	2,362	4,434
	Threading machines (except thread millers and thread grinders):				
35417 75	Bolt.....	(13)	(13)	1,114	3,592
35417 77	Pipe and nipple.....	13284	132,105		
35417 78	All other threading machines.....	134,156	132,103		
35417 17	Centering machines.....	22	408	62	449
35417 21	Keyseating machines.....	277	1,830		
35417 83	Pointing, chamfering, facing, shaving, grooving, counter sinking, burring, forming, and drilling machines (excluding gear-tooth machines)*				
35417 87	Transfer machines containing multiple stations for boring, broaching, drilling, grinding, turning, milling, tapping, reaming, counter boring, measuring, etc. (including way, rotary index, center column, trunnion, plain, or pallet transfer types).....	365	43,637	(NA)	51,394
35417 81, 85, 91-99	All other metal cutting machine tools* 14.....	10874	1012,236		

See footnotes at end of table.

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Table 3.—QUANTITY AND VALUE OF METAL-CUTTING MACHINE TOOLS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
35418 --	Other machine tools (including those designed primarily for home workshops, laboratories, garages, etc.)—Continued				
	Machine tools designed primarily for home workshop, garages, etc. (metal-working and primarily metalworking only):				
35418 11	Drilling machines.....	24,725	3,464	} (NA)	11,591
35418 31	Grinding and polishing machines.....	(NA)	8,153		
35418 51	Lathes.....	(NA)	1,248		
35418 71	Saws and sawing machines.....	(NA)	8,875		
35418 91	Other metalworking (or primarily metalworking) types.....	(X)	34,111		
35419 --	Parts for metal cutting type machine tools, sold separately, and rebuilt machine tools, total.....	(X)	162,780	(X)	88,742
35419 11	Parts for metal cutting machine tools (sold separately).....	(X)	133,583	(X)	71,772
35419 41	Rebuilt metal cutting type machine tools.....	(X)	29,197	(X)	16,970
35410 00	Machine tools, not specified by kind.....	(X)	22,626	(X)	18,476

\*Includes some machines with an average value of under \$1,000. (NA) Not available. (X) Not applicable. † Revised.

<sup>1</sup>For these products, data were also collected on Census Quarterly Form M35W. In lieu of asking for detailed statistics on these products in the Censuses of Manufactures, respondents were asked to report only value of shipments for specified classes of products for which separate figures had previously been collected on the Quarterly Form M35W. In most cases, the value figures reported in the census of manufactures for each class of products agreed closely with the corresponding figures reported in the quarterly survey. However, there were some differences between the Census figures and the quarterly survey figures. These variations were due primarily to the following reasons:

- Census of manufactures reports correctly including all accessories or attachments ordered and shipped with the machine. In some cases the quarterly survey represents only the value of the basic machine. This is the most significant factor for these differences.
- Use of different bases for reporting value (company sales vs. factory production).
- Use of estimates in reporting data on the quarterly survey, whereas census of manufactures figures generally represent more exact shipments figures.
- Better coverage in the census of manufactures program. Quarterly current commodity survey detail for 1963 have been revised to reflect data from respondents not previously included.

<sup>2</sup>Some machines with an average value of under \$1,000 for codes 3541231, 3541253, and 3541261 are included with code 3541299.

<sup>3</sup>Product code 3541439 included with "All other grinding machines."

<sup>4</sup>All machines with an average value of under \$1,000 for codes 3541433, 3541451 and 3541467 are included with "All other grinding machines."

<sup>5</sup>"All other manufacturing and tool room lathes" included with "All other lathes." Also "All other lathes" includes brush and floor light duty type turret lathes with turret attachments.

<sup>6</sup>Data are limited to ram type turret lathes.

<sup>7</sup>Some machines with an average value of under \$1,000 for codes 3541533 and 3541551 are included with code 3541599.

<sup>8</sup>Some machines with an average value of under \$1,000 for codes 3541626, 3541629 and 3541695 are included with code 3541699.

<sup>9</sup>Includes data for codes 3541711-3541799 and 3541811-3541891.

<sup>10</sup>"Vertical and other shapers and slotters" included with "All other metal cutting machine tools."

<sup>11</sup>All machines with an average value of under \$1,000 for codes 3541763 and 3541767 are included with code 3541769. For 1958, code 3541767 included with code 3541769.

<sup>12</sup>All machines with an average value of under \$1,000 for code 3541772 are included with code 3541779.

<sup>13</sup>Bolt threading machines and all machines with an average value of under \$1,000 for code 3541777 are included with 3541778.

<sup>14</sup>Includes for 1963 reaming machines (including rifling machines); screw and nut slotting machines; electro-erosion machines; ultrasonic machines; and electrolytic machines.

**U.S. DEPARTMENT OF COMMERCE**  
**BUREAU OF THE CENSUS**  
**WASHINGTON, D.C. 20233**  
**OFFICIAL BUSINESS**

**POSTAGE AND FEES PAID**  
**U.S. DEPARTMENT OF COMMERCE**



# 1963 CENSUS OF MANUFACTURES

MC63(P)-35C-2



INDUSTRY SERIES

preliminary  
report

## Metal-forming machine tools

SIC Code 3542

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Metal-forming Machine Tools Industry shipped products valued at \$440 million, an increase of 38 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 1 percent from 1958 and 5 percent from 1962 to a total of 22 thousand employees in 1963. Value added by manufacture amounted to \$278 million in 1963, an increase of 58 percent from 1958 and 5 percent from 1962.

The Metal-forming Machine Tools Industry includes establishments engaged primarily in the manufacture of power driven machines, not supported in the hands of an operator while in use, for pressing, forging, hammering, extruding, shearing, bending, or die casting metal into shape. The industry also includes rebuilding such machine tools and manufacturing repair parts for them.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE METAL-FORMING MACHINE TOOLS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3542)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	367	147	22,211	162,667	15,881	34,829	108,038	278,488	166,227	439,500	10,916	(X)
1962.....	(NA)	(NA)	23,396	171,980	18,409	37,041	109,504	265,841	180,740	448,210	(12,653)	4
1961.....	(NA)	(NA)	23,207	158,226	18,260	34,790	101,127	221,666	174,939	413,492	7,747	4
1960.....	(NA)	(NA)	22,423	152,140	17,952	35,833	100,930	237,602	156,865	384,044	12,599	3
1959.....	(NA)	(NA)	22,294	146,592	17,896	35,027	94,691	232,018	141,093	357,712	9,667	1
1958.....	291	147	22,502	132,368	15,572	30,905	82,192	176,021	130,143	317,657	11,723	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Metal-forming Machine Tools Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Metal-forming Machine Tools Industry amounted to \$440 million. Of this total, \$77 million were products primary to other industries; and \$31 million were receipts for miscellaneous activities. The industry shipments of primary products represented 81 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 82 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$423 million of Metal-forming Machine Tools were shipped by all producers of these products. Of this total, \$332 million, or 79 percent, were shipped by plants classified in Industry 3542, Metal-forming Machine Tools while the remainder was shipped by plants classified in other industries. The comparable ratio in 1958 was 80.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing



industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE METAL-FORMING MACHINE TOOLS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958  
(SIC code 3542)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll  (\$1,000)	Number	Man-hours  (1,000)	Wages  (\$1,000)						
United States, total.....	367	147	22,211	162,667	15,881	34,829	108,038	278,488	166,227	439,500	10,916	22,502	176,021
New England.....	39	13	2,081	14,292	1,527	3,195	9,059	23,279	12,983	35,370	769	2,242	16,749
Connecticut.....	28	10	1,821	12,916	1,287	2,700	7,953	21,317	11,727	31,942	690	1,920	14,578
Middle Atlantic...	88	28	4,512	31,653	3,058	6,558	19,678	56,694	35,227	90,497	3,279	4,773	33,635
New York.....	39	11	2,455	18,182	1,608	3,513	11,064	33,077	16,076	47,727	1,193	2,646	16,871
New Jersey.....	25	8	464	3,053	339	736	2,123	4,969	3,610	8,619	(1)	1,104	9,346
Pennsylvania.....	24	9	1,593	10,418	1,111	2,309	6,491	18,648	15,541	34,151	1,933	1,023	7,418
East North Central	159	79	12,703	96,823	9,121	20,396	65,408	165,716	100,895	263,960	5,882	13,231	106,966
Ohio.....	40	21	3,566	25,436	2,451	5,471	15,944	52,890	30,149	82,786	2,798	6,567	50,564
Illinois.....	50	28	6,321	49,891	4,574	10,309	34,308	75,857	50,601	123,474	2,020	5,098	44,251
Michigan.....	51	22	2,314	17,945	1,711	3,805	12,814	31,622	16,709	48,940	971	1,152	8,966
West North Central	20	5	538	2,993	415	877	2,064	5,849	2,413	8,272	(1)	608	5,473
Missouri.....	11	3	264	1,469	209	423	1,039	2,795	1,205	3,887	(D)	190	1,581
South.....	21	8	605	3,625	483	1,035	2,603	6,625	3,850	10,388	(1)	299	2,944
West.....	40	14	1,772	13,281	1,277	2,768	9,226	20,325	10,859	31,013	662	1,349	10,254

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figure for individual companies.

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF METAL-FORMING TYPE MACHINE TOOLS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Metal-Forming Machine Tools Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3542- --	Machine tools, metal-forming type total.....	(X)	422,563	(X)	289,478
35421 --	Punching, shearing, bending and forming machines: <sup>1</sup>				
	As reported in the census of manufactures.....	(X)	<sup>2</sup> 89,297	(X)	<sup>2</sup> 68,443
	As reported on Census Form M35W.....	<sup>r</sup> 21,527	<sup>2</sup> 88,046	(X)	<sup>2</sup> 64,094
35424 11	Punching and shearing machines:				
	Manually operated:				
	Average value under \$1,000.....	1,023	183	6,797	1,671
	Average value \$1,000 or over.....	( <sup>3</sup> )	( <sup>3</sup> )		
	Power:				
35424 21	Punches (including combination punching and shearing machines).....	<sup>4</sup> 974	<sup>4</sup> 12,424	728	4,408
35424 31	Plate shearing machines (squaring, slitting, etc.).....	1,286	12,426	1,345	13,752
35424 41	Bar and angle shearing machines.....	68	2,713	84	4,093
35424 51	Rotary shearing machines.....	<sup>4</sup> 127	<sup>4</sup> 4,188	281	3,244
35424 98	Other punching and shearing machines:				
	Average value under \$1,000.....	<sup>4</sup> 4,609	<sup>4</sup> 1,896	(X)	4,799
	Average value \$1,000 or over.....	<sup>3</sup> 414	<sup>3</sup> 8,979		
	Bending and forming machines:				
	Power: <sup>2</sup>				
35425 11	Bending rolls, sheet and plate.....	695	16,663	545	4,089
35425 15	Bending rolls, angles, bars and shapes.....	71	804	131	1,160
35425 21	Bending brakes and folders.....	1,043	8,463	905	8,783
35425 25	Rotary bending and forming machines.....	184	1,580	2,394	3,700
35425 31	Rotary head and ram bending machines (pipe, bar, etc.).....	251	2,426	566	2,640
35425 35	Other bending and forming machines.....	1,013	10,375	1,011	6,589
35425 13, 23, 27, 33, 37 }	Other bending and forming machines (manual).....	<sup>5</sup> 9,769	<sup>5</sup> 4,926	13,186	5,166
35422 --	Presses, including forging:				
	As reported in the census of manufactures.....	(X)	<sup>2</sup> 141,277	(X)	<sup>2</sup> 79,065
	As reported on Census Form M35W.....	<sup>r</sup> 28,563	<sup>r</sup> 135,996	(X)	<sup>2</sup> 76,501
	Mechanical:				
	Open inclinable gap type:				
35422 11	9 tons and under:				
	Average value under \$1,000.....	2,803	4,215	5,099	6,949
	Average value \$1,000 or over.....				
35422 12	10 to 50 tons.....	<sup>6</sup> 2,017	<sup>6</sup> 7,441	441	3,320
35422 13	51 tons and over.....	<sup>6</sup> 1,048	<sup>6</sup> 10,677		
35422 15, 17	End wheel type, including horn fixed and adjustable type.....	<sup>6</sup> 34	<sup>6</sup> 247	207	295
	Vertical straight sided and arch frame, excluding knuckle joint (including cam and crank):				
	Single action:				
35422 21	Single point:				
	200 tons and under.....	123	3,511	106	2,278
	201 tons and over.....	71	7,900		
35422 24	Two point:				
	500 tons and under.....	370	14,851	141	6,454
	501 tons and over.....	31	4,092		
35422 27-28	Four point.....	100	12,869	31	4,521
35422 31-33	Double and triple action (including toggle):				
	Single point.....	29	1,519	31	6,331
35422 35-37	Two and four point:				
35422 39	1,000 tons and under.....	72	14,442	6	614
	1,001 tons and over.....				
35422 41	High speed automatic type, with feed (include multiple transfer):				
35422 43	50 tons and under.....	<sup>6</sup> 185	<sup>6</sup> 3,739	117	1,499
35422 45	51 to 200 tons.....	182	7,739	53	2,450
	201 tons and over.....			6	614
35422 51	Knuckle joint:				
35422 53	500 tons and under.....	15	577	21	717
35422 55	501 tons and over.....				
35422 57	Horizontal.....	( <sup>7</sup> )	( <sup>7</sup> )	328	1,765
35422 58	Gap or C-frame.....	<sup>6</sup> 272	<sup>6</sup> 4,454		
35422 59	Bulldozers.....	( <sup>7</sup> )	( <sup>7</sup> )	1,930	7,072
	All other mechanical presses:				
	Average value under \$1,000 <sup>6</sup> .....	<sup>7</sup> 4,527	<sup>7</sup> 1,207	96	1,388
	Average value \$1,000 or over.....	<sup>4</sup> 383	<sup>7</sup> 6,702		
	Hydraulic and pneumatic presses (metalworking only):				
	Vertical single action:				
	Housing or straight column type:				
35422 61	500 tons and under.....	<sup>8</sup> 502	<sup>8</sup> 4,654	1,165	2,255
35422 62, 63	501 tons and over.....	13	1,693	16	2,403
35422 64-66	Open rod type.....	154	1,878	238	4,426
	Gap or C-frame:				
35422 68	50 tons and under.....	<sup>8</sup> 2,214	<sup>8</sup> 5,720	1,741	3,652
35422 70	51 to 500 tons.....	92	1,135	96	1,388
35422 69	501 tons and over.....	-	-		

See footnotes at end of table.

3542

## 1963 CENSUS OF MANUFACTURES

5

Table 3.—QUANTITY AND VALUE OF METAL-FORMING TYPE MACHINE TOOLS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
35422 —	Presses, including forging—Continued				
	As reported on Census Form M35W—Continued				
35422 71, 72	Hydraulic and pneumatic presses (metalworking only)—Continued				
35422 73	Vertical double action (2 slide).....	(9)	(9)	14	847
	Vertical triple action.....	(9)	(9)	(9)	(9)
	Horizontal (except extrusion) type:				
35422 74	500 tons and under.....	825	8332	43	523
35422 75	501 to 1,500 tons.....	-	-	10	2,101
35422 76	1,501 tons and over.....	-	-		
35422 77	Extrusion presses.....	(9)	(9)	45	3,302
35422 81	Stretch wrap forming machines.....	(9)	(9)	(9)	(9)
35422 79	All other hydraulic presses:				
	Average value under \$1,000 <sup>8</sup> .....	9929	9410	(X)	6,337
	Average value \$1,000 or over.....	9676	912,475		
35422 91	Manual presses (arbor, straightening, forcing, and assembling):				
	Average value under \$1,000.....	11,696	1,517	5,482	525
	Average value \$1,000 or over.....				
35423 —	Other metal forming machine tools, including forging machines <sup>10</sup> total.....	(X)	68,514	(X)	60,791
	Products included in both the census of manufactures and on Form M35W:				
	As reported in the census of manufactures.....	(X)	266,110	(X)	259,067
	As reported on Census Form M35W.....	2 <sup>2</sup> 6,401	2 <sup>2</sup> 64,164	(X)	252,587
	Forging machines:				
35423 11-25	Hammers.....	82	1,923	88	1,623
35423 31, 41	Headers and upsetters and forging rolls.....	315	11,186	(X)	15,764
35423 51, 98	Other forging machinery, including swaging machinery.....	428	9,238		
35428 11	Riveting machines (except hand held portable types).....	112,208	114,090	3,972	5,020
	Metal container making machines:				
35428 21	Can.....	986	19,277	816	18,625
	Other metal container making machines (including barrel and drum).....	183	1,518		
35428 31	Die casting machines.....	261	12,121	170	6,188
35428 53	Thread rolling machinery.....	244	2,852	135	1,749
35428 55-59	Spinning lathes (flow turn, hydrospin and spin forge) and marking machines, knurling machines, etc.....	112,009	111,959	1,375	1,889
35423 97	All other metal forming machines.....	(X)	2,404	(X)	1,724
35424 —	Parts for metal forming machine tools and rebuilt metal forming machinery, total.....	(X)	110,495	(X)	78,190
35424 11	Parts for metal forming machine tools, except parts and attachments for electric and pneumatic power-driven hand tools.....	(X)	105,032	(X)	76,152
35424 75	Rebuilt metal forming type machine tools.....	(X)	5,463	(X)	2,038
35420 00	Machine tools, metal forming types not specified by kind.....	(X)	12,980	(X)	2,989

- Represents zero. (X) Not applicable. <sup>1</sup>Revised.<sup>1</sup>Includes data for product codes 3542411-98 and 3542511-37.

<sup>2</sup>For these products, detailed data were also collected on Quarterly Census Form M35W. In lieu of asking for detailed statistics on these products in the Censuses of Manufactures, respondents were asked to report only value of shipments for specified classes of products for which separate figures had previously been collected on the commodity survey form. In most cases, the value figures reported in the Census of Manufactures for each class of products agreed closely with the corresponding figures reported in the quarterly survey. However, there were some differences between the Census figures and the commodity survey figures. These variations were due primarily to the following reasons:

- Inclusion of parts shipped with complete machines in the Census of Manufactures, whereas such data may be excluded from the quarterly survey.
- Use of different bases for reporting value (company sales vs. factory production).
- Use of estimates in reporting data on the quarterly survey, whereas Census of Manufactures figures generally represent more exact shipments figures.
- Better coverage in the Census of Manufactures program. Current commodity survey detail for 1963 have been revised to reflect data from respondents not previously included.

<sup>3</sup>Manually operated punching and shearing machines valued at \$1,000 or over are included with other punching and shearing machines.<sup>4</sup>Machines with an average value of under \$1,000 for codes 3542421 and 3542451 are included with product code 3542498.<sup>5</sup>For 1963, power type bending and forming machines with an average value of under \$1,000 are included with manual machines.<sup>6</sup>For 1963, all machines with an average value of under \$1,000 for codes 3542212, 3542213, 3542215, 3542241, and 3542257 are included with code 3542259, "All other mechanical presses."<sup>7</sup>Figures for codes 3542255 and 3542258 are included in code 3542259.<sup>8</sup>For 1963, all machines with an average value of under \$1,000 for codes 3542261, 3542268, and 3542274 are included with 3542279, "All other hydraulic presses."<sup>9</sup>For 1963, figures for codes 3542271, 3542272, 3542273, and 3542281 are included in code 3542279. For 1958, figures for codes 3542273, and 3542281 are included with code 3542279.<sup>10</sup>Includes data for product codes 3542311-98 and 3542811-59.<sup>11</sup>Some machines with an average value of under \$1,000 for code 3542811 are included with codes 3542855-59, "Spinning Lathes."



# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.



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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35C-3



INDUSTRY SERIES

preliminary  
report

## Special dies and tools

SIC Code 3544

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Special Dies and Tools Industry had total shipments of \$1,424 million, an increase of 34 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 7 percent from 1958 to a total of 89 thousand employees in 1963. Value added by manufacture amounted to \$1,070 million in 1963, an increase of 37 percent from 1958.

The Special Dies and Tools Industry includes establishments engaged primarily in the manufacture

of special tools and fixtures for use with machine tools, hammers, die casting machines and presses. The products of establishments classified in this industry include a wide variety of special toolings, such as dies; punches; die sets and components, and subpresses; jigs and fixtures and special checking devices. Establishments primarily engaged in manufacturing metal molds for use with foundry, plaster working, rubber working, plastic working, glass working and similar machinery are also included.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.--GENERAL STATISTICS FOR THE SPECIAL DIES AND TOOLS INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3544)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	5,891	1,129	89,043	666,150	74,679	166,414	531,349	1,070,290	368,651	1,424,028	51,082
1958 <sup>3</sup> .....	5,745	994	83,308	536,588	68,916	139,877	415,241	780,090	275,030	1,060,566	43,242

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures is as follows: All employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. Production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

### VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in Special Dies and Tools Industry consists not only of products described above as primary to the industry, but also of the value of

secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Special Dies and Tools Industry amounted to \$1,424 million. Of this total, \$106 million were products primary to other industries; and \$203 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 93 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3 indicates that \$1,593 million of special dies and tools were shipped by all producers of these products. Of this total, \$1,115 million, or 70 percent, were shipped by plants classified in Industry 3544, Special Dies and Tools while the remainder was shipped by plants classified in other industries. The 1958 percentage was 68.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

## 1963 CENSUS OF MANUFACTURES

3

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to

cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE SPECIAL DIES AND TOOLS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3544)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	5,891	1,129	89,043	666,150	74,679	166,414	531,349	1,070,290	368,651	1,424,028	51,082	83,308	780,090
New England.....	684	99	7,789	51,848	6,504	14,443	40,870	74,727	27,786	102,520	4,124	7,628	63,285
Massachusetts....	279	49	3,482	23,307	2,874	6,345	18,131	33,173	12,964	45,916	1,473	3,205	27,231
Rhode Island.....	50	4	368	2,117	305	602	1,686	2,988	1,136	4,341	(1)	483	3,253
Connecticut.....	329	43	3,703	25,208	3,128	7,079	20,074	36,590	12,801	49,459	2,432	3,536	29,018
Middle Atlantic...	1,246	204	15,351	102,075	12,970	27,885	81,272	153,060	57,871	209,736	9,777	14,436	120,120
New York.....	554	78	5,867	39,584	4,922	10,616	31,245	59,461	20,489	79,630	3,631	5,933	50,435
New Jersey.....	373	63	4,763	32,246	4,011	8,839	25,742	49,366	17,610	66,500	2,884	4,230	35,165
Pennsylvania....	319	63	4,721	30,245	4,037	8,430	24,285	44,233	19,772	63,606	3,262	4,273	34,520
East North Central	2,831	653	53,130	425,166	44,676	101,615	341,242	628,486	231,431	847,183	29,276	50,018	494,103
Ohio.....	652	168	11,948	89,794	10,077	22,797	71,347	137,554	48,725	183,195	6,588	10,566	97,408
Indiana.....	298	69	5,298	38,374	4,337	9,602	29,557	54,781	17,808	71,996	2,620	5,042	43,715
Illinois.....	592	96	7,710	58,969	6,487	14,263	47,755	90,803	32,533	122,008	4,952	7,666	69,458
Michigan.....	1,092	292	24,661	211,406	20,907	48,786	171,826	312,567	122,693	427,859	13,538	24,391	260,607
Wisconsin.....	197	28	3,513	26,623	2,868	6,167	20,757	32,781	9,672	42,125	1,578	2,353	22,915
West North Central	239	42	3,073	19,906	2,523	5,382	15,734	30,057	10,631	40,748	1,736	2,216	20,545
Minnesota.....	66	12	759	4,841	631	1,352	4,058	7,264	2,932	10,170	(1)	680	6,344
Missouri.....	109	18	1,528	10,069	1,232	2,557	7,582	15,406	5,275	20,747	869	999	9,493
South Atlantic....	168	24	1,696	10,349	1,417	3,004	8,056	92,868	6,609	99,467	1,061	1,521	12,604
Georgia.....	25	6	408	2,605	349	715	2,002	4,103	1,817	5,925	(1)	373	3,738
Florida.....	61	13	663	4,037	550	1,228	3,186	83,374	2,904	86,249	(1)	443	3,750
East South Central	72	16	1,000	6,024	822	1,761	4,826	8,215	3,303	11,495	687	561	5,509
Tennessee.....	33	7	494	2,870	401	863	2,261	4,146	1,909	6,018	(1)	31	2,989
West South Central	77	12	813	4,557	661	1,369	3,480	7,270	2,920	10,105	693	679	5,259
Texas.....	49	7	561	3,232	444	899	2,410	4,685	1,894	6,518	(1)	450	3,596
Mountain.....	38	9	438	2,832	363	729	2,258	3,868	1,914	5,761	(1)	479	4,407
Pacific.....	536	70	5,753	43,393	4,743	10,226	33,611	71,739	26,186	97,013	3,424	5,670	54,258
California.....	511	70	5,667	42,832	4,668	10,083	33,127	70,750	25,834	95,662	3,358	5,566	53,364

<sup>1</sup>Less than \$500 thousand.

Table 3.--VALUE OF SPECIAL DIES AND TOOLS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Special Dies and Tools Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total value of shipments including interplant transfers (\$1,000)	
		1963	1958
3544- --	Special dies and tools, die sets, jigs, and fixtures, and industrial molds, total.....	1,592,823	<sup>1</sup> 1,320,389
35441 --	Special dies and tools, die sets, jigs, and fixtures, total.....	1,249,708	1,157,343
35441 12	Jigs and fixtures, all types.....	230,477	291,819
	Dies:		
35441 21	Press dies (except forging and extrusion dies).....	483,571	339,689
35441 31	Forging dies (all types).....	34,738	25,428
35441 51	Die casting dies (molds).....	88,305	44,991
35441 57	Carbide dies (include wire and rod drawing cold heading and cold extrusion dies).....	29,733	61,235
35441 61	All other dies (exclude carbide and cold extrusion dies).....	79,994	
35441 71	Standard catalog components and parts for jigs, fixtures and dies including die sets.....	46,589	36,282
35441 81	Special gages of checking fixtures.....	38,819	29,889
35441 91	Other specially designed tooling, prototypes, and models.....	130,620	74,716
35441 00	Special dies and tools, die sets, jigs and fixtures, not specified by kind.....	86,862	<sup>1</sup> 253,294
35442 --	Industrial molds, total <sup>2</sup> .....	215,214	<sup>1</sup> 163,046
	Industrial molds, metal:		
35442 13	For casting metals (foundry molds, except ingot molds).....	14,718	<sup>1</sup> 17,481
35442 33	For molding rubber products, including tire molds.....	30,672	24,987
35442 53	For molding plastics.....	111,701	60,174
35442 59	Other.....	30,266	24,001
35442 63	Industrial molds, except metal.....	6,033	4,228
35442 00	Industrial molds not specified by kind.....	21,824	32,175
35440 00	Special dies and tools, die sets, jigs, and fixtures, not specified by kind.....	127,901	( <sup>1</sup> )

<sup>1</sup>Revised.<sup>2</sup>In 1958, product code 3544000 has been combined with product code 3544100.<sup>2</sup>Excludes industrial molds made and used in the same establishment.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35C-4



preliminary  
report

INDUSTRY SERIES

## Machine tool accessories

SIC Code 3545

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Machine Tool Accessories Industry shipped products valued at \$787 million, an increase of 54 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 4 percent from 1958 but a decrease of 4 percent from 1962 to a total of 47 thousand employees in 1963. Value added by manufacture amounted to \$559 million in 1963, an

increase of 60 percent from 1958 but a decrease of 2 percent from 1962.

The Machine Tool Accessories Industry includes establishments engaged primarily in the manufacture of cutting tools, precision measuring tools, and attachments and accessories for machine tools and for other metalworking machinery, not elsewhere classified.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.—GENERAL STATISTICS FOR THE MACHINE TOOL ACCESSORIES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3545)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,038	346	46,986	312,799	34,568	72,069	208,047	558,582	234,445	786,515	22,700	(X)
1962.....	(NA)	(NA)	48,730	316,102	35,694	75,126	205,410	570,061	244,610	809,326	22,247	5
1961.....	(NA)	(NA)	44,980	273,865	32,277	66,344	172,426	474,053	195,474	667,122	17,666	4
1960.....	(NA)	(NA)	46,732	283,647	33,972	71,541	182,709	495,551	179,158	682,139	17,992	3
1959.....	(NA)	(NA)	45,108	266,928	33,291	68,275	174,789	458,275	182,404	634,514	15,428	2
1958.....	905	297	41,521	226,949	29,304	56,299	143,663	348,580	143,142	511,456	15,277	(X)
1954 <sup>3</sup> .....	1,022	307	44,877	212,665	34,467	69,871	146,854	341,399	133,154	486,764	16,598	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

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(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Machine Tool Accessories Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Machine Tool Accessories Industry amounted to \$787 million. Of this total, \$130 million were products primary to other industries; and \$50 million were receipts for miscellaneous activities. The industry shipments of primary products represented 82 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 85 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$732 million of machine tool accessories and measuring devices were shipped by all producers of these products. Of this total, \$607 million, or 82 percent, were shipped by plants classified in Industry 3545, Machine Tool Accessories while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 85.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports



will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE MACHINE TOOL ACCESSORIES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3545)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expendi- tures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,038	346	46,986	312,799	34,568	72,069	208,047	558,582	234,445	786,515	22,700	41,521	348,580
New England.....	159	58	12,849	80,128	9,302	18,992	51,614	135,640	51,262	183,451	6,178	14,050	104,124
Massachusetts....	61	24	6,294	37,584	4,763	9,657	26,544	63,137	22,977	86,432	2,591	5,841	45,153
Rhode Island.....	19	7	1,099	6,803	784	1,561	3,896	12,110	3,218	15,242	( <sup>1</sup> )	3,144	22,023
Connecticut.....	70	22	4,614	30,666	3,085	6,408	17,897	49,837	19,231	65,835	2,554	4,364	31,403
Middle Atlantic...	164	43	5,691	33,646	4,254	8,694	22,904	57,437	32,805	89,483	2,537	4,798	35,359
New York.....	88	22	1,749	10,132	1,378	2,775	7,106	15,862	8,599	23,959	969	1,150	8,012
New Jersey.....	42	8	621	3,724	480	978	2,697	6,256	2,596	8,948	( <sup>1</sup> )	526	3,786
Pennsylvania....	34	13	3,321	19,790	2,396	4,941	13,101	35,319	21,610	56,576	1,339	3,122	23,561
East North Central.....	526	211	24,797	178,512	18,257	38,726	119,534	324,701	133,315	456,562	12,145	20,124	185,013
Ohio.....	93	38	6,447	44,420	4,734	9,691	28,165	82,902	26,937	111,709	2,724	5,391	50,644
Indiana.....	30	6	598	3,593	433	882	2,471	6,608	2,650	9,378	( <sup>1</sup> )	460	3,347
Illinois.....	89	38	5,028	33,332	3,621	7,461	21,537	61,036	29,049	88,055	2,293	4,332	35,910
Michigan.....	287	121	12,301	94,418	9,175	20,063	65,572	169,105	71,278	238,919	6,657	9,472	91,163
Wisconsin.....	27	8	423	2,749	294	629	1,789	5,050	3,401	8,501	( <sup>1</sup> )	469	3,949
West North Central.....	22	5	1,053	6,144	740	1,514	3,652	11,424	4,907	16,264	836	840	6,969
South.....	53	13	1,221	5,409	984	2,071	4,064	12,560	6,069	18,074	565	573	5,453
West.....	114	16	1,375	8,960	1,031	2,072	6,279	16,820	6,087	22,681	439	1,136	11,662
California.....	105	16	1,334	8,805	999	2,008	6,160	16,467	5,934	22,174	( <sup>1</sup> )	1,111	11,535

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Revised.

<sup>2</sup>Less than \$500 thousand.



Table 3.—VALUE OF MACHINE TOOL ACCESSORIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Machine Tool Accessories Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total value of shipments including interplant transfers (\$1,000)	
		1963	1958
3545- --	Machine tool accessories and measuring devices, total.....	732,349	470,197
35451 --	Small cutting tools for machine tools and metalworking machinery, total.....	470,015	301,209
	Broaches: (Including replaceable blades sold separately; but excluding holders and burnishing bars):		
35451 13	High speed steel.....	19,659	13,385
35451 15	Carbide, solid and tipped (excluding tips and blanks sold separately).....	5,026	
	Twist drills (including combined drills and countersinks; excluding gun-drills and masonry drills):		
35451 21	Carbon steel.....	2,785	4,219
	High-speed steel:		
35451 22	Taper shank.....	20,490	45,515
35451 24	Straight shank.....	52,289	
35451 26	Carbide, solid and tipped (excluding tips and blanks sold separately).....	6,992	15,631
35451 27	Countersinks (excluding combination drills and countersinks and interchangeable pilots).....	2,815	6,889
35451 29	Counter bores, including spot facers, etc. (excluding interchangeable pilots).....	6,452	
	Reamers, all types, including finished replaceable blades sold separately (excluding gun-reamers):		
35451 31	Carbon steel.....	5,293	3,712
35451 33	High-speed steel.....	15,387	13,457
35451 36	Carbide, solid and tipped (excluding tips and blanks sold separately).....	5,547	15,042
	Hobs (gear, spline, serration and sprocket):		
35451 41	Unground.....	7,374	3,758
35451 45	Ground.....	5,176	3,607
35451 53	Gear shaper cutters.....	6,562	11,908
35451 55	Gear shaving cutters.....	4,898	
	Milling cutters:		
35451 58	Form relieved cutters, high speed steel and carbide (including multiple thread milling cutters).....	9,337	3,235
	End mills, including solid or tipped, fishtail, die sinking, contour, router, tracer, hollow mill cutters and shell mill, etc. (excluding all inserted blade types):		
35451 61	High speed steel.....	21,145	11,924
35451 62	Carbide, solid and tipped (excluding tips and blanks sold separately).....	4,145	
	Replaceable inserted blade milling cutters:		
35451 64	High speed steel.....	3,402	4,330
35451 65	Carbide, solid and tipped (excluding tips and blanks sold separately).....	4,812	18,569
35451 68	Slitting saws and screw slotting cutters.....	5,749	12,320
	Milling cutters, n.e.c.		
35451 66	High-speed steel.....	8,735	
35451 69	Carbide, solid and tipped (excluding tips and blanks sold separately).....	3,785	
	Single-point tools (cutting tools with integral or bonded shank and cutting element):		
	Square, rectangular, round or other cross section, single or double end, for turning, planing, shaping, forming, facing, cutting, cutting-off, etc. (excluding circular form tools):		
35451 71	High-speed steel.....	11,089	4,369
35451 74	Carbide, solid and tipped (excluding tips and blanks sold separately).....	14,624	15,565
35451 75	Other materials.....	11,149	
35451 77	Circular form tools, including circular form tool blanks.....	5,111	13,480
	Threading tools:		
	Taps (excluding taps in threading sets and screw plates and inserted chaser types):		
35451 78	Ground thread (high-speed steel).....	35,855	23,114
35451 79	Cut thread (carbon steel and high speed steel).....	6,877	5,647
35451 84	Threading dies, cutting types (excluding inserted chaser-type and dies in threading sets and screw plates).....	5,648	7,381
35451 85	Chasers and blades for taps and dies of inserted blade or chaser-type (excluding die heads and insert or collapsible tap bodies).....	14,274	8,279
35451 89	Other threading tools, including threading sets and screw plates.....	9,594	5,508
	Tips, blanks and inserts (sold separately):		
35451 81	Tips and blanks <sup>2</sup> .....	23,009	33,526
	Inserts: <sup>2</sup>		
35451 82	Throw-away type.....	28,845	
35451 83	Other.....	6,244	
	Other types of cutting tools for machine tools, n.e.c., including gun-drills and gunreamers:		
35451 91	Carbon steel.....	5,537	12,208
35451 93	High-speed steel.....	21,453	
35451 97	Carbide, solid and tipped (excluding tips and blanks sold separately).....	21,177	
35451 00	Small cutting tools for machine tools and metalworking machinery, not specified by kind.....	21,674	24,631

See footnotes at end of table.

Table 3.—VALUE OF MACHINE TOOL ACCESSORIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Total value of shipments including interplant transfers (\$1,000)	
		1963	1958
35452 --	Precision measuring tools.....	88,312	60,871
	Machinists' precision tools:		
35452 11	Comparators.....	8,812	7,191
35452 13	Fixed size limit gages (American Gage Design type—C-S8-51):		
35452 15	Fixture type.....	6,994	3,895
	Thread type.....	6,001	6,078
35452 17	Adjustable size limit gages.....	2,751	1,810
35452 21	Gage blocks.....	2,556	1,967
35452 61	Dial indicators.....	6,661	4,658
35452 71	Pneumatic gages (manual and automatic).....	14,468	27,116
35452 98	Other machinists' precision tools, including micrometers, calipers and dividers.....	36,814	
35452 00	Precision measuring tools, not specified by kind.....	3,255	8,156
35453 --	Other attachments and accessories for machine tools and metalworking machinery, total.....	148,905	96,168
	Chucks:		
35453 11	Drill.....	7,547	7,099
35453 13	Lathe.....	9,974	5,266
35453 15	Other chucks, including die heads and tap bodies.....	4,630	2,465
35453 21	Chuck holding devices (feeding fingers and collets, sleeves, sockets, drill heads, etc.).....	16,621	11,547
35453 31	Tools for screw and automatic machines (box tools, hollow drills, work and tool holders, etc.) (except tap and dies).....	10,046	4,899
35453 41	Other accessories and attachments for machine tools and metalworking machinery (except cutting tools).....	78,020	48,757
35453 51	Toolroom specialties, including levels, angle irons, plates, squares, sine bars, V-blocks, flats, vises, etc.....	13,262	7,099
35453 00	Other attachments and accessories for machine tools and metalworking machinery, not specified by kind.....	8,805	9,036
35450 00	Machine tool accessories and measuring devices, not specified by kind.....	25,117	11,949

n.e.c. Not elsewhere classified.

<sup>1</sup>For 1958, data for these products include tips sold separately but exclude blanks.<sup>2</sup>For 1963, respondents were requested to use the following definitions of blanks, tips, and inserts:

Blanks are unground material, cast or formed, from which a solid tool or cutting tip can be made.

Tips are a finished or semifinished form ready to be brazed, soldered, or otherwise bonded to a shank to form a cutting tool.

Inserts are replaceable mechanically held cutting components of cutting tools, ground on all surfaces or on top and bottom.

The 1958 report form carried no definitions for these products.





# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35C-5



INDUSTRY SERIES

preliminary  
report

## Metalworking machinery, n. e. c.

SIC Code 3548

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Metalworking Machinery, N.E.C., Industry had total shipments valued at \$793 million, an increase of 32 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 14 percent from 1958 and 6 percent from 1962 to a total of 38 thousand employees in 1963. Value added by manufacture amounted to \$469 million in 1963, an increase of 41 percent from 1958 and 9 percent from 1962.

The Metalworking Machinery, N.E.C., Industry includes establishments engaged primarily in the manufacture of metalworking machinery such as rolling mill machinery and equipment, power driven hand tools, welding equipment, wire fabricating machinery and equipment, and automotive maintenance machinery and equipment.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE METALWORKING MACHINERY, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3548)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>2</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	427	161	38,076	246,367	28,243	56,961	161,552	469,200	327,812	793,275	15,565	(X)
1962 <sup>3</sup> .....	(NA)	(NA)	36,040	223,655	26,324	52,502	145,816	429,296	270,977	680,747	11,085	5
1961 <sup>3</sup> .....	(NA)	(NA)	34,870	209,781	24,984	49,004	134,766	368,399	267,557	661,746	14,157	4
1960 <sup>3</sup> .....	(NA)	(NA)	36,199	215,827	26,092	52,441	141,494	409,682	267,187	656,553	18,366	3
1959 <sup>3</sup> .....	(NA)	(NA)	34,819	197,710	25,010	49,566	127,107	362,136	239,341	610,922	11,095	2
1958.....	362	143	33,328	183,307	24,384	46,915	120,444	332,397	241,230	602,015	16,634	(X)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Metalworking Machinery, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Metalworking Machinery, N.E.C., Industry amounted to \$793 million. Of this total, \$118 million were products primary to other industries; and \$69 million were receipts for miscellaneous activities. The industry shipments of primary products represented 84 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$698 million of metalworking machinery, n.e.c., were shipped by all producers of these products. Of this total, \$606 million, or 87 percent, were shipped by plants classified in Industry 3548, Metalworking Machinery, N.E.C., while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 85.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary

reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE METALWORKING MACHINERY, N.E.C., INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3548)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	427	161	38,076	246,367	28,243	56,961	161,552	469,200	327,812	793,275	15,565	33,238	332,397
New England.....	42	14	2,703	17,598	1,907	3,483	10,408	30,566	19,527	51,711	1,835	2,835	28,679
Connecticut.....	18	8	1,277	8,829	897	1,763	5,315	16,282	8,693	23,948	1,172	1,437	12,937
Middle Atlantic...	89	39	11,578	77,413	8,704	17,360	52,716	139,096	103,321	242,969	5,001	12,291	117,835
New York.....	38	8	2,343	14,125	1,695	3,402	9,656	36,615	14,344	50,021	535	2,079	24,293
New Jersey.....	18	8	1,749	12,612	1,187	2,400	6,784	17,433	11,757	29,485	836	1,851	14,439
Pennsylvania....	33	23	7,486	50,676	5,822	11,558	36,276	85,048	77,220	163,463	3,630	8,361	79,103
East North Central	178	70	15,373	103,316	11,399	23,938	67,574	194,481	142,351	336,150	6,541	11,500	120,680
Ohio.....	58	29	7,789	56,938	5,784	12,180	38,449	96,204	78,990	173,850	3,731	5,161	56,010
Indiana.....	12	2	149	1,105	114	236	766	2,490	946	3,498	(1)	104	1,124
Illinois.....	50	17	4,668	26,716	3,628	7,664	17,667	57,093	40,817	98,277	2,004	3,621	37,702
Michigan.....	43	13	1,670	10,954	1,136	2,383	6,571	24,734	12,659	36,959	568	1,997	19,017
Wisconsin.....	15	9	1,097	7,603	737	1,475	4,121	13,960	8,939	23,566	(1)	617	6,827
West North Central	32	16	1,962	11,984	1,343	2,737	6,459	22,776	17,277	39,735	1,192	1,637	15,258
Iowa.....	9	5	1,067	6,643	663	1,291	3,204	11,946	8,390	19,927	834	772	6,702
Missouri.....	9	4	504	2,718	436	945	1,886	6,602	4,917	11,821	(1)	328	3,867
South.....	32	11	5,383	29,534	4,084	7,939	19,842	68,601	37,092	100,835	2,346	3,942	37,100
West.....	54	11	1,077	6,522	806	1,504	4,553	13,680	8,244	21,875	(1)	1,123	12,845

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF METALWORKING MACHINERY, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Metalworking Machinery, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Number of units)	Value (\$1,000)	Quantity (Number of units)	Value (\$1,000)
3548--	Metalworking machinery, except machine tools, total.....	(X)	698,018	(X)	580,161
35481--	Rolling mill machinery and equipment, total.....	(X)	221,611	(X)	252,164
35481 15	Hot rolling mill machinery, except tube rolling.....	(X)	105,141	(X)	134,503
35481 25	Cold rolling mill machinery.....	(X)	79,679	(X)	44,352
35481 35	Tube mill machinery.....	(X)	16,448	(X)	13,394
35481 55	Other.....	(X)	18,729	(X)	59,915
35481 00	Rolling mill machinery and equipment, not specified by kind.....	(X)	1,614	(X)	-
35482--	Power-driven hand tools, including parts and attachments, total.....	(X)	319,750	(X)	210,628
	Portable power-driven hand tools (power-driven hand tools which are controlled by hand and the position of which in operation need not be fixed, including high cycle):				
	Electric:				
	Drills:				
35482 06	1/4" chuck size and under.....	1,992,731	21,375	1,522,312	25,823
35482 08	5/16" up to and including 3/8".....	989,866	11,206		
35482 12	1/2" and larger.....	742,418	13,892		
	Saws:				
	Circular:				
35482 16	7" blade and smaller.....	1,034,860	22,267	1,488,944	36,053
35482 17	Over 7" blade.....	137,657	7,371		
35482 18	Jig, saber, reciprocating.....	1,146,243	18,189		
35482 22	Screwdrivers and nut-runners.....	19,532	1,844	(X)	29,770
35482 24	Hammers.....	42,223	6,434		
35482 25	Impact wrenches.....	55,672	4,519		
35482 27	Planers and routers.....	100,261	4,863		
35482 33	Grinders, polishers, circular sanders (except bench grinders).....	460,793	12,941		
35482 34	Sanders (belt, oscillating and reciprocating).....	655,725	12,374		
35482 29	Other electric-powered hand tools.....	(X)	9,898		
35482 05	Parts, attachments and accessories for electric-powered hand tools (sold separately).....	(X)	42,661	(X)	30,193
	Pneumatic:				
35482 35	Drills, screwdrivers and nut-runners.....	121,056	20,234	126,497	15,684
35482 37	Percussion tools (such as runners, riveters, chippers, scalers holder-ons).....	55,627	9,097	(X)	33,449
35482 41	Impact wrenches.....	104,786	18,721		
35482 43	Grinders, polishers, sanders.....	93,518	12,788		
35482 49	Other pneumatic-powered hand tools.....	(X)	18,428		
35482 51	Parts, attachments and accessories for pneumatic-powered hand tools (sold separately).....	(X)	43,776	(X)	26,133
35482 61	Powder-actuated hand tools.....	50,916	2,073	(S)	1,839
35482 00	Power-driven hand tools, including parts and attachments, not specified by kind.....	(X)	4,799	(X)	12,094
35483--	Acetylene welding and cutting apparatus.....	(X)	54,648	(X)	38,088
	Welding and cutting apparatus (except electric):				
35483 21	Oxygen-acetylene generating equipment.....	(X)	54,081	(X)	235,706
35483 31	All other acetylene welding and cutting apparatus, including machine, and hand-cutting and welding equipment.....				
35483 00	Acetylene welding and cutting apparatus, not specified by kind.....				
35484 11	Automotive maintenance equipment (such as motor analyzers, wheel balancers, spark plug cleaners, wheel spinners, frame straighteners, etc.)....	(X)	47,461	(X)	44,183
35485--	Other metalworking machinery, except machine tools, n.e.c.....	(X)	36,653	(X)	17,627
35485 45	Drawing machines, draw benches, and machines for weaving and other wire fabricating:				
	As reported on the census of manufactures <sup>3</sup> .....	(X)	28,953	(X)	17,627
	As reported on Census Form M35W <sup>3</sup> .....	1,869	21,320	1,090	17,520
	Machines for weaving and other wire fabricating (barbed wire, poultry netting, woven wire fence machines, etc.).....	1,542	12,900	587	4,645
	Wire drawing machines and draw benches.....	327	8,420	503	12,875
35485 98	All other metalworking machinery, except machine tools.....	(X)	47,308	(X)	(NA)
35485 00	Other metalworking machinery, except machine tools, not specified by kind.....	(X)	392	(X)	-
35480 00	Metalworking machinery, except machine tools, not specified by kind.....	(X)	17,895	(X)	17,471

- Represents zero. (NA) Not available. (S) Does not meet publication standards. (X) Not applicable. <sup>R</sup>Revised.<sup>1</sup>Data for product code 3548235 are limited to pneumatic drills. Pneumatic screwdrivers and nut-runners are included with "Other pneumatic-powered hand tools."<sup>2</sup>The data published in the 1958 report for these products have been revised. As a result of these changes, it is not possible to publish separate data for these products without revealing the operation of individual companies.<sup>3</sup>For these products, data were also collected on Census Form M35W. In lieu of asking for detailed statistics on these products in the Census of Manufactures, respondents were asked to report only value of shipments for specified classes of products for which separate figures had previously been collected on the quarterly Form M35W. In most cases, the value figures reported in the Census of Manufactures for each class of products agreed closely with the corresponding figures reported in the quarterly survey. However, there were some differences between the census figures and the quarterly survey figures. These variations were due primarily to the following reasons:

- Major differences due to better coverage in the Census of Manufactures program. Coverage in the quarterly survey on Form M35W will be supplemented by adding respondents not currently in the survey but making the specified product according to their Census of Manufactures report.
- Census of Manufactures reports correctly including all accessories or attachments ordered and shipped with the machine. In some cases the quarterly survey represents only the value of the basic machine.
- Use of different reporting periods (calendar years vs. fiscal year).
- Use of different bases for reporting value (company sales vs. factory production).
- Use of estimates in reporting data on the quarterly survey. Whereas Census of Manufactures figures generally represent more exact shipments figures.

<sup>4</sup>A major portion of this value represents metalworking assembly and automation equipment, not elsewhere classified.



# 1963 CENSUS OF MANUFACTURES

MC63(P)-35D-1



INDUSTRY SERIES

preliminary  
report

## Food products machinery

SIC Code 3551

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Food Products Machinery Industry had total shipments valued at \$616 million, an increase of 35 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 10 percent from 1958 but a 4 percent decrease from 1962 to a total of 31 thousand employees in 1963. Value added by manufacture amounted to \$365 million in 1963, an increase of 36 percent from 1958 with virtually no change from 1962.

The Food Products Machinery Industry includes establishments engaged primarily in the manufacture of machinery for use by the food products and beverage manufacturing industries in the preparation, canning, or packaging of food products, as well as parts and attachments for such machinery.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE FOOD PRODUCTS MACHINERY INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3551)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	602	276	30,521	197,238	20,274	41,837	114,511	364,780	246,085	616,349	9,750	(X)
1962.....	(NA)	(NA)	31,943	201,469	21,689	45,586	115,085	365,150	260,775	626,228	11,834	5
1961.....	(NA)	(NA)	30,935	187,928	20,912	42,328	103,830	359,651	250,465	588,020	10,508	4
1960.....	(NA)	(NA)	30,519	181,317	20,323	42,734	103,582	337,845	227,842	557,324	8,765	3
1959.....	(NA)	(NA)	28,680	164,956	19,146	38,778	93,403	300,593	205,870	501,078	9,332	2
1958.....	672	240	27,715	152,515	18,195	36,304	86,824	268,639	185,816	456,171	7,801	(X)
1954.....	672	261	33,205	152,518	23,717	49,009	98,570	261,779	168,585	432,200	7,571	(X)
1947.....	623	(NA)	36,927	113,823	28,894	62,099	82,246	191,758	135,923	327,681	(NA)	(X)
1939.....	406	(NA)	(NA)	(NA)	14,155	(NA)	18,931	58,587	33,082	91,669	(NA)	(X)

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Food Products Machinery Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Food Products Machinery Industry amounted to \$616 million. Of this total, \$67 million were products primary to other industries; and \$113 million were receipts for miscellaneous activities. The industry shipments of primary products represented 87 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 87 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$507 million of food products machinery were shipped by all producers of these products. Of this total, \$436 million, or 86 percent, were shipped by plants classified in Industry 3551, Food Products Machinery, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 84.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.



## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE FOOD PRODUCTS MACHINERY INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3551)													
Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	632	276	30,521	197,238	20,274	41,837	114,511	364,780	246,085	616,349	9,750	27,715	268,639
New England.....	30	9	2,443	16,316	1,346	2,769	7,803	27,141	13,496	41,937	568	3,113	29,875
Massachusetts..	18	7	1,768	11,827	939	2,000	5,516	20,391	9,282	29,819	(1)	2,928	27,177
Middle Atlantic..	143	48	4,217	26,103	2,810	5,933	15,258	45,778	33,543	79,790	643	4,584	37,804
New York.....	79	26	2,137	12,749	1,411	2,792	7,386	20,898	16,155	37,385	(1)	2,398	22,008
East North													
Central.....	200	95	12,678	86,086	8,305	16,931	48,153	175,521	106,374	285,112	5,035	11,583	122,537
Ohio.....	41	20	3,230	20,883	2,035	4,161	11,821	39,938	30,325	68,146	1,021	2,127	21,829
Indiana.....	17	5	587	3,421	507	1,007	2,721	9,362	5,281	13,164	504	742	6,990
Illinois.....	83	43	4,269	28,799	2,897	5,883	16,974	52,037	33,790	87,130	1,848	4,095	38,522
Michigan.....	20	10	2,269	17,902	1,353	2,670	7,746	47,854	17,405	68,755	624	2,227	32,659
Wisconsin.....	40	17	2,323	15,080	1,513	3,210	8,891	26,330	19,573	47,917	1,038	2,392	22,537
West North													
Central.....	72	30	3,018	18,437	2,080	4,292	10,917	30,731	25,675	54,816	879	2,760	27,091
Minnesota.....	19	7	526	2,940	334	671	1,692	4,928	3,962	9,033	(1)	732	6,196
Iowa.....	17	10	1,084	6,224	754	1,464	3,729	9,253	9,550	17,242	(1)	909	9,288
Missouri.....	21	8	928	6,237	644	1,343	3,750	11,500	6,930	18,346	(1)	670	6,404
Kansas.....	10	5	454	2,939	330	775	1,689	4,912	5,014	9,849	(1)	447	5,173
South Atlantic...	59	36	3,418	19,928	2,421	5,160	13,304	33,528	27,271	62,650	966	2,303	19,729
Maryland.....	15	10	1,349	9,147	951	2,066	6,683	18,001	12,356	31,849	(1)	1,078	10,682
Georgia.....	15	10	921	4,711	669	1,434	2,969	7,178	7,030	14,372	(1)	648	5,287
Florida.....	16	9	440	2,397	291	613	1,421	3,019	3,030	6,062	(1)	277	1,252
East South													
Central.....	12	4	378	2,674	222	462	1,380	5,274	2,296	7,405	(1)	153	1,657
Kentucky.....	7	4	357	2,551	206	429	1,280	5,105	2,182	7,136	(1)	130	1,623
West South													
Central.....	36	12	805	4,358	557	1,203	2,547	7,611	6,709	14,542	(1)	596	4,824
Texas.....	21	6	464	2,631	311	685	1,357	4,633	4,287	9,035	(1)	281	2,475
West.....	130	42	3,564	23,336	2,533	5,087	15,149	39,196	30,721	70,097	1,279	2,623	25,122
California.....	99	31	2,660	17,495	1,826	3,712	11,177	29,627	24,565	54,885	1,097	2,214	21,449

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3A.—QUANTITY AND VALUE OF FOOD PRODUCTS MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Food Products Machinery Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3551- --	Food products machinery, total.....	(X)	506,874	(X)	399,846
35511 --	Dairy and milk product plant machinery and equipment, including dairy bottling machines, total.....	(X)	70,948	(X)	64,611
35511 11	Fluid milk bottling filling, packaging and capping machines (glass, paper and other materials).....	(X)	13,166	(X)	9,154
35511 12	Butter, cheese, dry milk, and ice cream packaging machines.....	718	4,772	(X)	(1)
35511 13	Uncasers and casers.....	347	4,685	(X)	(1)
35511 14,16	Washing, sterilizing, capping, and other dairy bottling machines.....	(X)	3,923	(X)	6,849
35511 43	Pasteurizers.....	461	3,921	(NA)	6,244
35511 51	Homogenizers.....	249	1,842	398	2,613
35511 73	Ice cream freezers.....	4,955	11,789	(NA)	2,947
35511 83	Butter and cheese processing plant machinery and equipment.....	733	3,266	(NA)	1,966
35511 91	Dry milk processing plant machinery and equipment.....	52	4,007		
35511 98	Other dairy and milk products processing plants machinery and equipment, including cream separators (capacity over 1,500 pounds per hour).....	(X)	18,187	(X)	132,261
35511 00	Dairy and milk products plant machinery and equipment, including dairy bottling machines, not specified by kind.....	(X)	1,390	(X)	2,577
35512 --	Commercial food-products machinery, total <sup>2</sup> .....	(X)	115,874	(X)	100,980
35512 11	Slicers.....	20,511	9,774	21,849	7,472
35512 21	Choppers, grinders, cutters, dicers, and similar machines.....	35,174	15,134	34,584	11,527
35512 25	Tenderizers.....	6,131	1,053	7,943	1,315
35512 31	Mixers and whippers (except drink mixers).....	13,706	10,956	10,739	7,487
35512 41	Parts and attachments for commercial food-preparation machines.....	(X)	10,080	(X)	4,995
35512 51	Other commercial food-preparation machines, power-driven.....	(X)	12,678	(X)	8,474
35512 61	Bakery machinery and equipment: Dough mixers.....	5,476	3,508	(NA)	6,584
	Bake ovens:				
35512 71	Traveling tray.....	90	3,084	274	5,126
35512 75	Other.....	1,373	5,230	560	3,085
35512 81	Slicing machines <sup>3</sup> .....	1,405	2,422	747	1,176
35512 85	Wrapping machines <sup>3</sup> .....	314	4,568	231	2,979
35512 87	Continuous bread making equipment.....	(X)	4,318	(X)	25,890
35512 91	Other bakery machinery and equipment.....	(X)	28,164		
35512 00	Commercial food products machinery, not specified by kind.....	(X)	4,905	(X)	14,870
35513 --	Other industrial food-products machinery, including parts and attachments for all types of industrial food products machinery, total.....	(X)	293,606	(X)	210,790
35513 11	Meat- and poultry-packing plant machinery and equipment, including killing, dehairing, stuffing, cooking, rendering, cutting, pressing, grinding, chopping, and canning machines, etc.....	(X)	28,159	(X)	26,439
	Fruit- and vegetable-canning and packing machinery:				
35513 23	Preparation machinery.....	(X)	21,555	(X)	12,556
35513 25	Wrapping, filling and sealing machinery.....	(X)	6,685	(X)	8,640
35513 27	Packing machinery.....	759	5,539		
35513 29	All other fruit- and vegetable-canning machinery.....	(X)	12,765	(X)	12,857
	Flour mill and grain mill machinery:				
35513 33	Packing and packaging machinery.....				
35513 39	Other flour mill and grain mill machinery.....	(X)	32,042	(X)	35,244
	Sugar plant machinery, including cane and beet mills, crushers, pulverizers, crystalizers, granulators, etc:				
35513 43	Packing and packaging machinery.....	(X)	13,783		
35513 49	Other sugar-plant machinery.....	(X)	11,265	(X)	18,617
	Other industrial food products machinery:				
35513 53	Packing and packaging machinery.....	(X)	30,884		
35513 59	Other industrial food products machinery.....	(X)	33,516	(X)	29,069
	Bottling machinery for foods (except dairy products), liquor, beer, wine, and other beverages:				
35513 65	Filling, capping and labeling machines.....	1,842	26,501	4 <sup>r</sup> 658	4 <sup>r</sup> 8,686
35513 66	Uncasers and casers.....	445	3,452	(X)	(5)
35513 67	Bottle washers and sterilizers.....	380	11,409	225	8,009
35513 61,69	Carbonators (beverage bottling) and other food bottling machinery except dairy.....	(X)	15,121	(X)	5 <sup>r</sup> 19,120
35513 81	Parts and attachments for industrial food-products machinery.....	(X)	31,605		19,434
35513 00	Other industrial food products machinery, including parts and attachments for all types of industrial food products machinery, not specified by kind.....	(X)	9,325	(X)	12,119
35510 00	Food products machinery, not specified by kind.....	(X)	26,446	(X)	23,465

(NA) Not available. (X) Not applicable. <sup>r</sup>Revised.<sup>1</sup>Figures for "Butter, cheese, dry milk and ice cream packaging machines" and "Uncasers and casers" are included with "Other dairy and milk products processing plant machinery and equipment."<sup>2</sup>Includes power-driven machines for use by hotels, restaurants, institutions, meat markets, butcher shops, food-product stores, and similar commercial organizations.<sup>3</sup>For combination slicing and wrapping machines the number and value of slicing units are included with slicing machines and the number and value of wrapping units with wrapping machines.<sup>4</sup>For 1958 "Labeling machines" are included with "Other food bottling machinery, except dairy."<sup>5</sup>Figures for "Uncasers and casers" are included with "Carbonators and other food bottling machinery, except dairy."

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR FOOD PRODUCTS MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3551-	Food products machinery.....1963...	97	141
	1958...	85	127
35512	Commercial food products machinery.....1963...	96	136
	1958...	98	117

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# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume 1, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume 1, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.





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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35D-2



## INDUSTRY SERIES

preliminary  
report

### Textile machinery

SIC Code 3552

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Textile Machinery Industry shipped products valued at \$543 million, an increase of 44 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 5 percent from 1958 but a decrease of 7 percent from 1962 to a total of 36 thousand employees in 1963. Value added by manufacture amounted to \$314 million in 1963, an increase of 47 percent from 1958 but a decrease of 9 percent from 1962.

The Textile Machinery Industry includes establishments engaged primarily in the manufacture of machinery for the textile industries, and parts, attachments, and accessories.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE TEXTILE MACHINERY INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3552)

Year	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	560	216	36,000	196,371	26,939	56,137	129,054	314,469	232,249	542,979	13,823	(X)
1962.....	(NA)	(NA)	38,678	201,660	27,973	60,730	137,676	346,974	230,736	574,860	(15,334)	5
1961.....	(NA)	(NA)	37,685	192,819	26,550	58,730	129,806	317,773	214,699	530,350	(12,962)	4
1960.....	(NA)	(NA)	39,321	188,265	28,639	61,559	131,601	325,236	219,371	538,480	(11,370)	3
1959.....	(NA)	(NA)	35,766	173,594	27,627	58,194	120,553	271,336	186,898	445,493	6,813	1
1958.....	553	212	34,313	154,548	25,611	51,206	101,897	214,199	154,182	376,340	8,508	(X)
1954 <sup>3</sup> .....	535	210	36,595	145,253	28,093	55,733	98,668	216,606	127,167	347,145	8,528	(X)
1947.....	489	(NA)	53,583	158,446	45,393	98,607	126,142	256,436	146,949	403,385	(NA)	(X)
1939.....	339	(NA)	(NA)	(NA)	22,580	(NA)	28,461	62,033	34,876	96,909	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Textile Machinery Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Textile Machinery Industry amounted to \$543 million. Of this total, \$37 million were products primary to other industries; and \$37 million were receipts for miscellaneous activities. The industry shipments of primary products represented 93 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 87 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$498 million of textile machinery were shipped by all producers of these products. Of this total, \$469 million, or 94 percent, were shipped by plants classified in Industry 3552, Textile Machinery, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 94.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE TEXTILE MACHINERY INDUSTRY, BY GEOGRAPHIC AREA: 1963 AND 1958

(SIC code 3552)													
Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll	Number	Man-hours	Wages						
				(\$1,000)		(1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	560	216	36,000	196,371	26,939	56,137	129,054	314,469	232,249	542,979	13,823	34,313	214,199
New England.....	138	58	14,260	82,269	10,200	21,510	52,327	132,627	92,007	222,316	5,943	16,367	98,328
Massachusetts....	84	36	9,794	57,252	6,949	14,375	35,803	89,262	68,658	156,952	4,237	10,178	56,971
Rhode Island....	28	10	2,250	13,239	1,465	3,185	7,606	26,501	15,126	39,264	(D)	1,893	15,139
Middle Atlantic...	171	51	8,707	51,426	6,836	13,815	36,545	72,991	50,436	122,381	3,541	8,357	55,338
New York.....	62	16	1,134	6,861	908	1,851	4,961	12,264	8,011	20,072	(1)	931	8,297
New Jersey.....	56	13	1,387	8,503	1,073	2,256	5,736	12,786	11,650	25,022	597	1,372	11,319
Pennsylvania....	53	22	6,186	36,062	4,855	9,708	25,848	47,941	30,775	77,287	2,688	6,054	35,722
East North Central	19	4	1,020	6,017	584	1,223	3,353	8,901	5,959	15,093	566	1,044	7,482
South Atlantic....	205	96	11,321	53,175	8,783	18,496	34,425	92,316	80,404	172,209	3,555	7,863	47,363
North Carolina..	117	55	5,278	25,178	3,976	8,451	15,496	44,371	34,613	78,210	1,399	4,017	23,455
South Carolina..	48	25	4,811	22,133	3,781	7,943	14,855	38,356	37,666	76,459	1,544	2,773	17,235
Georgia.....	32	13	1,133	5,372	951	1,952	3,704	8,801	7,681	16,357	569	984	6,237
All other divisions.....	27	7	692	3,486	536	1,113	2,404	7,632	3,443	10,980	(1)	682	5,688

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.



Table 3A.—QUANTITY AND VALUE OF TEXTILE MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Textile Machinery Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3552- --	Textile-industries machinery, total.....		(X)	497,684	(X)	322,239
35521 --	Textile machinery, total.....		(X)	253,621	(X)	143,720
	Fiber-to-fabric textile machinery (except parts, attachments, and accessories):					
	Cleaning and opening machinery:					
35521 13	Picker machines.....	Number.....	791	2,838	618	1,989
35521 19	Garnetting and other.....	do.....	271	1,465	(NA)	2,565
35521 22	Carding machines.....	do.....	451	3,311	265	2,422
35521 32	Combing machines.....	do.....	(1)	(1)	236	2,774
35521 36	Drawing and roving frames.....	do.....	1,701	16,289	1,168	11,057
	Spinning and twisting frames:					
35521 42	Spinning frames.....	do.....	2,636	29,101	852	11,172
35521 46		Total no. of spindles	756,346	(X)	166,840	(X)
35521 47	Twisting frames.....	Number.....	711	11,974	552	7,874
35521 48		Total no. of spindles	85,885	(X)	72,313	(X)
	Yarn preparing machines:					
35521 51	Winding machines (skein, spool, bobbin, quill, cone, etc.)...	Number.....	1,016	13,830	409	5,641
35521 53	Other yarn-preparing machines (beaming, warping, warp tying, warp drawing-in, splashing, etc.).....	Dollars.....	(X)	6,509	(X)	8,821
35521 55	Other fiber-to-fabric machinery.....	Number.....	(X)	119,241	(X)	4,183
	Fabric machinery (except parts, attachments, and accessories):					
	Power looms (including looms operating without shuttle):					
35521 64	Cotton and synthetic broadlooms, except carpet.....	Number of looms.....	(2)	(2)	(NA)	10,620
35521 68	All other power looms.....	Number of looms.....	(2)	(2)		
	Knitting machines:					
35521 72	Hosiery (circular and full fashioned).....	Number.....	5,655	22,011	5,184	20,486
35521 75	Other knitting machines.....	do.....	1,703	17,777	964	6,892
35521 84	Other fabric machinery (including lace, embroidery, braiding, and tufting machinery, and hand looms).....	do.....	(NA)	246,199	(X)	4,525
35521 85	Bleaching, dyeing, and finishing machinery.....	Dollars.....	(X)	28,080	(X)	11,127
35521 87	Machinery for drying stocks, yarns, cloth, etc.....	do.....	(X)	7,950	(X)	4,419
35521 98	Other textile industries machinery, n.e.c., (except parts, attachments and accessories).....	do.....	(X)	23,503	(X)	17,759
35521 00	Textile machinery, not specified by kind.....	do.....	(X)	3,543	(X)	9,394
35522 --	Parts and attachments for textile machinery.....		(X)	231,524	(X)	168,737
	Textile-industries machinery, parts, attachments, and accessories:					
35522 11	Textile machinery turnings and shapes (bobbins, shuttles, spools, picker sticks, etc.).....		(X)	37,196	(X)	23,939
	Parts, attachments, and accessories for fiber-to-fabric machinery:					
35522 22	Card clothing.....	1,000 sq. ft.....	1,912	9,330	1,747	7,121
35522 31	Other parts, attachments, and accessories for fiber-to-fabric machinery, except card clothing.....	Dollars.....	(X)	47,425	(X)	38,980
35522 41	Parts, attachments, and accessories for power looms.....	do.....	(X)	66,210	(X)	38,588
35522 45	Parts, attachments, and accessories for knitting machines, excluding needles.....	do.....	(X)	10,677	(X)	11,168
35522 53	Parts, attachments, and accessories for fabric machinery (except parts, attachments, and accessories for power looms and knitting machines).....	do.....	(X)	6,808	(X)	7,730
35522 71	Parts, attachments, and accessories for bleaching, dyeing, and finishing machinery.....	do.....	(X)	7,655	(X)	6,135
35522 98	Textile-industries machinery parts, attachments, and accessories, n.e.c.....	do.....	(X)	40,585	(X)	26,240
35522 00	Parts and attachments for textile machinery, not specified by kind.....	do.....	(X)	5,638	(X)	8,836
35520 00	Textile-industries machinery, including parts and attachments, not specified by kind.....		(X)	12,539	(X)	9,782

(NA) Not available.

(X) Not applicable.

n.e.c. Not elsewhere classified.

<sup>1</sup>Data for combing machines (product code 3552132) are included with data for other fiber-to-fabric machinery (product code 3552155).<sup>2</sup>Data for power looms (product codes 3552164 and 3552168 are included with data for other fabric machinery (product code 3552184).

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR TEXTILE MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3552-	Textile machinery.....1963...	121	135
	.....1958...	80	133
35521	Textile machinery.....1963...	130	136
	.....1958...	74	135

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35D-3



INDUSTRY SERIES

preliminary  
report

## Woodworking machinery

SIC Code 3553

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Woodworking Machinery Industry had total shipments valued at \$251 million, an increase of 17 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 2 percent from 1958 to a total of 12 thousand employees in 1963. Value added by manufacture amounted to \$146 million in 1963, an increase of 29 percent from 1958.

The Woodworking Machinery Industry includes establishments engaged primarily in the manufacture of machinery for sawmills, planing mills, cabinet and furniture makers, pattern makers and veneer workers

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE WOODWORKING MACHINERY INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3553)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	246	90	11,985	72,402	8,632	17,517	45,303	146,161	109,145	250,822	4,588
1958.....	257	96	12,219	63,414	8,036	15,945	36,904	112,936	88,530	214,376	6,924
1954 <sup>3</sup> .....	249	96	11,973	53,821	8,839	17,771	35,224	102,525	73,945	178,799	4,329
1947 <sup>3</sup> .....	294	(NA)	16,233	50,488	13,018	27,219	36,383	90,841	62,040	152,881	(NA)
1939 <sup>3</sup> .....	148	(NA)	(NA)	(NA)	3,649	(NA)	4,683	12,677	7,783	20,460	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available for 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Woodworking Machinery Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Woodworking Machinery Industry amounted to \$251 million. Of this total, \$47 million were products primary to other industries; and \$23 million were receipts for miscellaneous activities. The industry shipments of primary products represented 80 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 78 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$219 million of woodworking machinery were shipped by all producers of these products. Of this total, \$183 million, or 83 percent, were shipped by plants classified in Industry 3553, Woodworking Machinery while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 86.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE WOODWORKING MACHINERY INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3553)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	246	90	11,985	72,402	8,632	17,517	45,303	146,161	109,145	250,822	4,588	12,219	112,936
New England.....	20	5	511	3,098	348	726	1,817	4,339	2,825	7,402	(1)	1,592	11,170
Middle Atlantic...	25	8	986	6,245	618	1,204	3,344	8,563	6,684	15,281	(1)	1,068	11,038
East North Central	73	31	3,244	21,295	2,385	5,000	14,121	40,928	29,897	69,915	1,299	3,985	33,759
Ohio.....	11	3	352	2,552	262	584	1,611	4,824	4,561	9,495	(D)	666	6,965
Indiana.....	9	6	260	1,556	180	374	1,008	3,064	2,825	5,856	(1)	223	2,149
Illinois.....	17	6	1,043	5,975	744	1,529	3,915	12,615	6,683	19,410	(D)	1,405	9,179
Michigan.....	21	8	918	7,098	691	1,464	4,720	12,600	10,330	21,827	705	741	6,307
Wisconsin.....	15	8	671	4,114	508	1,049	2,867	7,825	5,498	13,327	(D)	950	9,159
West North Central	11	6	913	5,743	671	1,357	3,728	9,933	8,662	18,364	754	271	2,283
South Atlantic....	16	8	985	4,506	664	1,282	2,511	22,128	12,567	33,744	(1)	678	11,789
East South Central	13	6	840	3,194	650	1,252	2,251	8,169	7,700	16,107	(1)	1,139	8,866
Tennessee.....	5	2	338	1,058	269	512	817	1,838	2,250	4,109	(D)	585	2,786
West South Central	11	5	365	1,966	279	555	1,435	4,198	3,147	7,408	(1)	207	2,496
West.....	77	21	4,141	26,355	3,017	6,141	16,096	47,903	37,663	82,601	1,333	3,279	31,535
Oregon.....	29	11	1,082	7,240	765	1,522	4,258	18,081	11,065	29,191	(1)	829	9,036
California.....	25	3	2,397	14,409	1,767	3,689	8,723	23,306	20,436	41,132	826	1,881	17,405

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup> Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF WOODWORKING MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Woodworking Machinery Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3553- --	Woodworking machinery, total.....	(X)	219,156	(X)	174,489
35531 --	Woodworking machinery (except machinery designed primarily for home work shops, garages, and service shops), total.....	(X)	185,137	(X)	145,078
35531 12	Sawmill equipment.....	(X)	22,207	(X)	15,780
35531 15	Veneer and plywood-making; wood box and crate-making machinery.....	(X)	13,828	(X)	7,954
35531 62	Sawing machines (except sawmill equipment and chain saws):				
	Quantity reported.....	22,766	9,415	39,635	10,744
	Quantity not reported.....	(X)	1,878	-	-
35531 67	Chain saws.....	392,766	45,963	329,164	43,867
35531 71	Jointers, matchers, molders, mortisers, shapers, and tenoners (except power-driven hand-held tools).....	(NA)	11,326	(NA)	8,221
35531 81	Parts, attachments, and accessories for woodworking machinery (sold separately).....	(X)	52,523	(X)	38,521
35531 98	Other woodworking machinery (except power-driven hand-held tools), including lathes, planing machines, and surfacing machines, except hand-held.....	(X)	24,249	(X)	12,515
35531 00	Woodworking machinery (except machinery designed primarily for home workshops, garages, and service shops), including parts, attachments, and accessories, not specified by kind.....	(X)	1,748	(X)	7,476
35532 --	Woodworking machinery (designed primarily for home workshops, garages, and service shops) (excluding power-driven hand tools), total.....	(X)	30,752	(X)	25,685
35532 21	Saws, including circular:				
	Quantity reported.....	196,953	17,555	<sup>r</sup> 249,251	<sup>r</sup> 14,439
	Quantity not reported.....	(X)	6,072	-	-
35532 81	Parts, attachments, and accessories for machine tools and woodworking machines designed primarily for home workshops, etc. (sold separately) (except parts for power-driven hand tools).....	(X)	3,243	(X)	<sup>r</sup> 3,116
35532 98	Other machine tools and woodworking machines designed primarily for home workshops, etc. (except power-driven hand tools), including lathes, drilling machines, jointers, planers and shapers.....	(X)	3,882	(X)	6,693
35532 00	Woodworking machinery (designed primarily for home workshops, garages, and service shops) (excluding power-driven hand tools), not specified by kind.....	(X)	-	(X)	1,437
35530 00	Woodworking machinery, not specified by kind.....	(X)	5,267	(X)	3,726

- Represents zero. (X) Not applicable. <sup>r</sup>Revised.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-35D-4



INDUSTRY SERIES

preliminary  
report

## Paper industries machinery

SIC Code 3554

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics. 1963 Census of Manufactures.

During 1963, manufacturers in the Paper Industries Machinery Industry had total shipments of \$402 million, an increase of 30 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 18 percent from 1958 to a total of 19 thousand employees in 1963. Value added by manufacture amounted to \$231 million in 1963, an increase of 91 percent from 1958.

The Paper Industries Machinery Industry includes establishments engaged primarily in the manufacture of machinery for the paper pulp, paper, and paper product industries.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE PAPER INDUSTRIES MACHINERY INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3554)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)
1963 <sup>2</sup> .....	217	91	18,561	130,386	12,883	27,081	82,145	230,912	199,357	402,071	10,131
1958.....	202	97	15,713	89,881	11,356	22,727	58,198	123,758	155,610	310,179	4,847
1954 <sup>3</sup> .....	169	98	15,003	73,713	11,516	23,745	50,057	109,803	92,479	206,951	4,916
1947 <sup>3</sup> .....	149	(NA)	17,088	57,749	13,398	29,782	41,523	81,358	69,727	151,085	(NA)
1939 <sup>3</sup> .....	116	(NA)	(NA)	(NA)	5,570	(NA)	7,984	20,198	13,017	33,215	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Paper Industries Machinery Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Paper Industries Machinery Industry amounted to \$402 million. Of this total, \$44 million were products primary to other industries; and \$49 million were receipts for miscellaneous activities. The industry shipments of primary products represented 87 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 93 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$346 million of paper industries machinery were shipped by all producers of these products. Of this total, \$309 million, or 89 percent, were shipped by plants classified in Industry 3554, Paper Industries Machinery while the remainder was shipped by plants classified in other industries. The 1958 percentage was 91.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table A) which show the shipments by all producers of the primary products of the industry.



## 1963 CENSUS OF MANUFACTURES

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## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE PAPER INDUSTRIES MACHINERY INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3554)													
Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	217	91	18,561	130,386	12,883	27,081	82,145	230,912	199,357	402,071	10,131	15,713	123,758
New England.....	46	22	4,518	31,340	2,805	6,257	16,200	52,583	38,462	90,446	2,250	3,623	30,785
New Hampshire.....	6	3	1,392	9,090	877	1,947	4,429	16,559	9,451	26,169	1,077	1,273	11,694
Massachusetts...	29	16	2,592	19,050	1,623	3,687	10,110	32,873	25,304	57,324	1,147	2,209	18,126
Middle Atlantic...	82	28	5,759	41,566	3,617	7,578	23,620	71,620	57,071	125,117	2,446	4,820	40,132
New York.....	40	11	2,500	17,934	1,537	3,237	10,083	31,467	27,973	58,194	1,039	2,326	17,861
New Jersey.....	21	8	1,869	14,149	1,180	2,475	8,044	24,789	19,447	41,682	(D)	1,528	13,586
Pennsylvania....	21	9	1,390	9,483	900	1,950	5,493	15,364	9,651	25,241	(D)	961	8,685
East North Central	48	26	6,931	48,370	5,415	10,986	35,620	78,677	89,359	162,548	4,411	5,537	39,659
Ohio.....	12	7	1,425	10,372	838	1,928	6,078	17,229	13,587	31,112	(D)	1,307	8,925
Wisconsin.....	24	15	5,286	36,668	4,400	8,698	28,586	59,258	74,287	127,714	3,674	4,001	28,738
South Atlantic....	13	4	653	4,123	488	1,127	2,930	5,639	6,210	11,967	698	1,131	7,753
Pacific.....	13	6	490	3,453	384	744	2,579	20,059	6,707	8,237	(1)	410	4,020
All other divisions.....	15	5	210	1,534	174	389	1,196	2,334	1,548	3,756	(1)	192	1,409

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures of individual companies.

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

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Table 3A.—QUANTITY AND VALUE OF PAPER INDUSTRIES MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Paper Industries Machinery Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments".)

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Number of units)	Value (\$1,000)	Quantity (Number of units)	Value (\$1,000)
3554- --	Paper-industries machinery, total.....	(X)	346,074	(X)	280,106
35540 11	Pulp- and paper-industries machinery (new): Wood preparation equipment (including barkers, chippers, knotters, splitters, chipscreens, etc.).....	(X)	2,409	(X)	1,826
35540 21	Pulp mill machinery: Grinders.....	325	7,396	99	2,879
35540 25	Deckers, thickeners, wet lap machines, bleaching equipment, pulp screens, washers, and savealls.....	(X)	21,022	(X)	18,564
35540 29	Other pulp mill machinery including digesters and recovery room equipment.....	(X)	6,216		
35540 31	Paper mill machinery: Beaters, jordans, and other stock preparation.....	(X)	20,329	(X)	15,179
35540 41	Paper machines: Fourdriniers including yankee machines.....	45	49,519	39	63,201
35540 45	Calenders including super calenders.....	49	5,999	10	2,131
35540 43	Cylinders.....	(X)	40,469	(X)	38,600
35540 49	Other paper machinery, including forming and finishing machinery, but excluding calenders.....				
35540 51	Paper and paperboard converting equipment: Bagmaking machines including shipping sack machines.....	742	8,763	1,236	13,334
35540 52	Envelope making machines.....			1,265	17,634
35540 53	Corrugated boxmaking machines.....	1,234	24,696	840	6,850
35540 54	Box, carton, and shipping container making machines (except corrugated box machines).....	1,025	13,078		
35540 56	Toilet roll and napkin making machines.....	129	7,012	125	3,230
35540 59	Other paper and paperboard converting equipment, including drum, can, and tube making machines.....	(X)	32,724	(X)	19,025
35540 71	Rebuilt pulp- and paper-industries machinery: Rebuilt paper machines including fourdriniers, yankees, cylinders, and forming machines.....	(X)	51,126	(X)	16,872
35540 75	Other rebuilt pulp- and paper-industries machinery.....	(X)	1,973	(X)	3,257
35540 81	Parts and attachments for pulp mill, paper mill, and paper converting machinery and equipment (sold separately).....	(X)	44,851	(X)	43,329
35540 00	Paper-industries machinery, not specified by kind.....	(X)	8,492	(X)	14,195

<sup>r</sup>Revised. (X) Not applicable.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR PAPER INDUSTRIES MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3554-	Paper industries machinery.....1963...	202	98
	.....1958...	144	111

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

OFFICIAL BUSINESS

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

# 1963 CENSUS OF MANUFACTURES

MC63(P)-35D-5



## INDUSTRY SERIES

## preliminary report

### Printing trades machinery

SIC Code 3555

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Printing Trades Machinery Industry shipped products valued at \$448 million, an increase of 45 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 8 percent from 1958 but a 2 percent decrease from 1962 to a total of 23 thousand employees in 1963. Value added by manufacture amounted to \$286 million in 1963, an increase of .52 percent from 1958 but a decrease of 1 percent from 1962.

The Printing Trades Machinery Industry includes establishments engaged primarily in the manufacture of machinery and equipment used by the printing and bookbinding trades.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE PRINTING TRADES MACHINERY INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3555)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	490	136	23,096	160,315	16,556	34,750	105,185	286,439	170,192	448,484	8,936	(X)
1962 <sup>3</sup> .....	(NA)	(NA)	23,648	159,928	16,546	34,405	99,948	288,542	166,575	459,961	(13,675)	3
1961 <sup>2</sup> .....	(NA)	(NA)	23,156	151,010	16,287	33,324	96,795	270,084	159,593	420,759	9,596	2
1960 <sup>2</sup> .....	(NA)	(NA)	22,243	143,040	15,554	32,545	92,312	246,718	151,471	399,418	10,233	2
1959 <sup>2</sup> .....	(NA)	(NA)	20,763	128,037	14,613	31,009	82,192	220,205	128,000	342,926	5,824	1
1958.....	442	119	21,453	119,575	15,278	30,001	78,005	188,881	111,702	309,797	8,496	(X)
1957 <sup>3</sup> .....	358	109	21,960	110,679	16,416	33,027	74,515	178,966	95,538	276,320	6,634	(X)
1947 <sup>3</sup> .....	327	(NA)	24,880	84,750	19,684	42,739	62,919	138,915	60,447	199,362	(NA)	(X)
1939 <sup>3</sup> .....	254	(NA)	(NA)	(NA)	9,564	(NA)	14,903	41,137	15,419	56,556	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Printing Trades Machinery Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Printing Trades Machinery Industry amounted to \$448 million. Of this total, \$15 million were products primary to other industries; and \$64 million were receipts for miscellaneous activities. The industry shipments of primary products represented 96 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$396 million of printing trades machinery were shipped by all producers of these products. Of this total, \$369 million, or 93 percent, were shipped by plants classified in Industry 3555, Printing Trades Machinery, while the remainder was shipped by plants classified in other industries. The 1958 percentage was 92.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

## 1963 CENSUS OF MANUFACTURES

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## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE PRINTING TRADES MACHINERY INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3555)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	490	136	23,096	160,315	16,556	34,750	105,185	286,439	170,192	448,484	8,936	21,453	188,881
New England.....	43	14	1,973	12,859	1,400	3,041	8,168	23,572	13,810	36,036	1,184	1,892	14,221
Connecticut.....	14	7	934	6,120	671	1,407	4,012	12,282	5,309	16,528	(D)	799	6,561
Middle Atlantic...	190	53	9,825	69,173	7,334	15,212	47,512	121,393	65,443	185,309	2,283	10,746	91,807
New York.....	105	23	5,356	38,066	3,973	8,227	26,679	71,692	30,154	101,314	(D)	6,130	55,061
New Jersey.....	57	16	2,389	17,670	1,751	3,693	11,876	28,303	21,414	48,017	(D)	2,531	22,908
Pennsylvania....	28	14	2,080	13,437	1,610	3,292	8,957	21,398	13,875	35,978	706	2,085	13,838
East North Central	129	45	8,694	61,980	6,215	13,275	40,682	110,141	70,102	175,851	4,465	7,613	72,299
Ohio.....	35	10	2,548	16,562	1,942	3,926	11,620	35,041	23,579	57,213	1,169	1,953	20,218
Illinois.....	65	28	5,388	40,929	3,722	8,001	26,209	65,902	41,888	105,287	5,137	47,215	
Michigan.....	18	6	626	3,569	470	984	2,404	7,645	3,728	11,106	583	393	3,785
West North Central	36	5	893	5,353	442	871	2,060	8,762	8,006	16,636	(1)	357	3,156
Missouri.....	16	3	534	3,423	220	426	1,010	5,590	6,450	12,012	(D)	114	900
South.....	41	7	647	4,315	466	963	2,613	11,977	6,564	17,630	(1)	441	3,520
West.....	51	12	1,064	6,635	699	1,388	4,150	10,594	6,267	17,022	(1)	404	3,878
California.....	46	11	1,010	6,275	655	1,302	3,952	9,795	6,043	16,011	(1)	386	3,808

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing operation of individual companies.

<sup>1</sup> Less than \$500 thousand.



Table 3A.—QUANTITY AND VALUE OF PRINTING TRADES MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Printing Trades Machinery Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3555- --	Printing trades machinery and equipment, total.....		(X)	395,608	(X)	270,375
35551 --	Printing presses, total.....		(X)	137,478	(X)	94,200
	Presses:					
	Letterpress (typographical, relief):					
	Sheet-fed:					
35551 11	Plain.....	No. of complete presses.....				
35551 12	High speed cylinder (job) up to and including 22" by 28", including verticals.....		531	2,015	1,131	3,899
35551 13	Cylinder presses over 22" by 28".....		31	797		
35551 15	Rotary letterpress.....		39	1,984	152	6,533
	Roll or web-fed:					
35551 18	Rotary letterpress.....					
35551 19	Newspaper high-speed rotary and flat-bed and high-speed platen		235	29,754	82	7,664
	Offset lithographic:				229	24,233
	Sheet-fed:					
	Single color:					
35551 23	Up to and including 23" by 30".....		535	7,343		
35551 26	Over 23" by 30".....		121	3,604	831	22,736
35551 27	Multicolor.....		275	27,837		
	Web-fed:					
35551 30	Publication (newspaper, etc.) type.....		358	31,653		
35551 31	All other.....		165	9,676	203	10,723
35551 32	Gravure, sheet-fed and web-fed.....		42	6,532	64	8,057
35551 41	Other printing presses, including proof and rebuilt.....		(NA)	15,043	(NA)	10,355
35551 00	Printing presses, not specified by kind.....		(X)	1,240	(X)	-
35552 --	Other printing trades machinery, including parts and attachments, total.....		(X)	237,571	(X)	152,736
	Typesetting machinery and equipment (excluding justifying typewriters):					
	Matrices, including matrices for hot metal machines and photo typesetting.....		(X)	17,783	(X)	13,284
35552 52	Photographic typesetting machines.....	No. of units...	1,316	8,766		
35552 53,59	Typesetting and typesetting machines, including hot metal (excluding photographic) and other typesetting equipment, including tape perforators, operating units, etc., but excluding cameras.....				2,350	18,428
			(X)	29,159		
35552 61	Electrotyping machinery and equipment.....		(X)	7,708	(X)	1,360
35552 63	Stereotyping machinery and equipment.....		(X)	7,708	(X)	3,829
35552 65	Photoengraving and lithographing platemaking equipment (except cameras).....		(X)	5,863	(X)	4,599
35552 66	Paper cutting machines.....		(X)	7,681	(X)	19,912
35552 68	Bookbinding machinery and equipment, including folding, gathering, inserting, ruling, etc. (exclude paper cutting machines).....		(X)	21,787		
35552 69	Engravers' materials and equipment, including metal plates, wood blocks, lithographic stones, etc.....		(X)	11,138	(X)	6,353
	Other printing machinery and equipment, including parts, attachments and accessories for printing trades machinery and equipment (sold separately):					
35552 72	Ink rollers and printers' rolls and platens.....		(X)	35,713	(X)	21,353
35552 75	Foundry type, rules, leads, slugs, borders, and ornaments.....		(X)	4,510	(X)	4,524
35552 81	Parts, attachments, and accessories for printing trades machinery and equipment (sold separately).....		(X)	41,938	(X)	33,830
35552 98	Other printing machinery and equipment.....		(X)	43,191	(X)	25,264
35552 00	Other printing trades machinery, including parts and attachments, not specified by kind.....		(X)	2,334	(X)	-
35550 00	Printing trades machinery and equipment, not specified by kind.....		(X)	20,559	(X)	23,439

- Represents zero. (NA) Not available. (X) Not applicable.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR PRINTING TRADES MACHINERY AND EQUIPMENT SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3555-	Printing trades machinery and equipment, 1963...	141	122
	1958...	118	100
35551	Printing presses, 1963...	142	121
	1958...	116	101



# 1963 CENSUS OF MANUFACTURES

MC63(P)-35D-6



INDUSTRY SERIES

preliminary  
report

## Special industry machines, n. e. c.

SIC Code 3559

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Special Industry Machines, N.E.C., Industry had total shipments valued at \$990 million, an increase of 30 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 1 percent from 1958 but a 3 percent increase from 1962 to a total of 50 thousand employees in 1963. Value added by manufacture amounted to \$568 million in 1963, an increase of 32 percent from 1958 and 8 percent from 1962.

The Special Industry Machines, N.E.C., Industry includes establishments engaged primarily in the manufacture of special industry machinery, not elsewhere classified, such as smelting and refining equipment, cement making, clay working, cotton ginning, glass making, hat making, incandescent lamp making, leather working, paint making, rubber working, cigar and cigarette making, tobacco working, shoe making, and stone working machinery.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE SPECIAL INDUSTRY MACHINES, N.E.C., INDUSTRY, IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3559)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,085	387	50,330	331,744	34,146	71,149	198,975	567,848	424,719	990,101	22,690	(X)
1962.....	(NA)	(NA)	48,936	313,576	34,012	68,296	189,315	527,639	433,886	961,728	17,669	5
1961.....	(NA)	(NA)	50,666	313,986	35,008	68,914	187,384	512,486	435,167	960,555	20,000	3
1960.....	(NA)	(NA)	53,448	322,993	36,780	75,549	196,961	532,552	436,730	955,940	21,644	3
1959.....	(NA)	(NA)	51,253	299,238	35,255	72,538	182,948	494,794	398,324	873,618	17,202	1
1958.....	1,048	368	50,849	273,665	34,042	67,312	163,464	431,117	320,070	761,077	17,449	(X)
1957.....	917	330	47,007	218,553	33,997	69,310	141,160	353,857	244,974	625,053	13,742	(X)
1947.....	1,185	(NA)	58,610	187,727	45,156	(NA)	134,013	294,236	189,041	483,275	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1959 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Special Industry Machines, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Special Industry Machinery, N.E.C., Industry amounted to \$990 million. Of this total, \$134 million were products primary to other industries; and \$117 million were receipts for miscellaneous activities. The industry shipments of primary products represented 85 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 83 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$969 million of special industry machines, n.e.c., were shipped by all producers of these products. Of this total, \$739 million, or 76 percent, were shipped by plants classified in Industry 3559, Special Industry Machines, N.E.C., while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 77.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.



## 1963 CENSUS OF MANUFACTURES

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The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of

the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE SPECIAL INDUSTRY MACHINES, N.E.C., INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3559)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	1,085	387	50,330	331,744	34,146	71,149	198,975	567,848	424,719	990,101	22,690	50,849	431,117
New England.....	122	39	7,879	52,492	5,421	10,778	32,469	83,881	54,651	139,706	3,583	6,941	57,413
Massachusetts.....	69	24	4,709	30,856	3,167	6,182	19,072	44,027	26,093	72,760	1,647	4,163	31,659
Connecticut.....	34	9	2,532	18,398	1,782	3,646	11,130	35,325	25,896	59,997	1,289	2,327	23,276
Middle Atlantic.....	275	106	13,107	89,110	8,618	18,136	52,363	151,653	105,116	257,392	5,822	14,707	118,381
New York.....	90	25	3,983	27,520	2,691	5,460	16,893	50,153	29,094	77,831	1,070	5,898	45,984
New Jersey.....	105	50	5,058	32,893	3,403	7,355	19,835	56,032	42,360	99,359	2,490	4,331	38,928
Pennsylvania.....	80	31	4,066	28,697	2,524	5,321	15,635	45,418	33,662	80,202	2,262	4,478	33,469
East North Central.....	328	138	16,992	115,031	11,816	24,650	71,237	197,902	152,637	350,739	6,622	16,107	148,802
Ohio.....	123	58	8,571	100,891	6,033	12,650	36,826	57,910	79,292	179,551	2,753	8,076	69,856
Indiana.....	28	9	1,955	12,623	1,327	2,701	7,572	21,151	13,942	34,901	1,241	1,741	14,427
Illinois.....	88	29	2,802	19,326	1,920	3,974	11,778	33,931	25,050	58,933	1,001	2,672	28,721
Michigan.....	66	32	2,865	19,790	2,004	4,214	12,154	31,262	25,886	58,012	1,387	2,882	28,859
Wisconsin.....	23	10	798	5,382	532	1,111	2,907	10,667	8,467	19,342	(1)	736	6,939
West North Central.....	47	18	1,343	7,563	890	1,856	4,590	15,553	11,314	26,292	1,989	1,620	11,142
Iowa.....	13	6	460	2,594	382	802	1,892	4,946	3,686	8,588	(1)	376	3,310
Missouri.....	14	3	351	1,985	119	238	594	3,363	4,705	7,719	(D)	825	3,824
South Atlantic.....	59	25	3,871	25,567	2,495	5,544	12,590	38,859	33,374	71,792	2,446	3,993	28,341
North Carolina.....	9	3	606	3,000	470	1,021	2,024	5,201	3,815	9,227	(1)	347	2,646
Georgia.....	15	8	850	4,419	599	1,496	2,400	8,970	5,807	14,337	(1)	1,020	8,498
East South Central.....	30	12	1,451	8,096	1,098	2,201	5,557	17,508	12,347	26,398	(1)	1,126	8,943
Tennessee.....	14	4	328	1,825	267	544	1,414	3,241	1,705	4,940	(D)	225	2,035
Alabama.....	5	3	868	4,803	656	1,319	3,205	10,109	6,375	14,370	(1)	774	5,485
West South Central.....	65	20	2,898	15,755	1,897	4,137	9,274	27,780	26,515	54,005	991	3,159	27,726
Texas.....	47	13	2,304	12,758	1,447	3,197	7,316	21,444	20,922	42,522	773	2,648	24,604
West.....	159	29	2,789	18,130	1,911	3,847	10,895	34,712	28,765	63,777	801	3,196	30,369
Oregon.....	12	2	330	2,221	234	475	1,491	4,197	3,496	7,643	(1)	254	3,062
California.....	123	22	1,846	11,880	1,377	2,777	7,476	24,763	16,152	40,646	683	2,634	22,836

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

(1) Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF SPECIAL INDUSTRY MACHINERY, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Special Industry Machines, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3559- --	Special industry machinery, total.....	(X)	969,465	(X)	726,212
35591 11	Chemical manufacturing industries machinery and equipment and parts.....	(X)	150,393	(X)	118,458
35592 --	Foundry machinery and equipment, excluding patterns and molds, total.....	(X)	89,688	(X)	52,639
35592 31	Molding machines.....	1,240	15,523	1,261	13,693
35592 51	Blast cleaning equipment.....	(X)	22,894		
35592 98	Other foundry machinery, including core-making machines and parts for foundry machinery and equipment.....	(X)	50,683	(X)	36,519
35592 00	Foundry machinery and equipment, excluding patterns and molds, not specified by kind.....	(X)	588	(X)	2,427
35593 --	Plastics-working machinery and equipment, excluding patterns and molds, total.....	(X)	136,286	(X)	50,818
35593 11	Compression molding machines.....	795	4,761	203	2,502
35593 31	Extrusion molding machines.....	1,107	18,376	549	7,407
35593 51	Injection molding machines.....	2,511	54,827	829	20,416
35593 98	Other plastics-working machinery and equipment, including parts for plastics-working machinery.....	(X)	57,664	(X)	16,894
35593 00	Plastics-working machinery and equipment, excluding patterns and molds, not specified by kind.....	(X)	458	(X)	3,599
35594 --	Rubber-working machinery and equipment, excluding tire molds, total.....	(X)	73,658	(X)	53,870
35594 11	Banbury and mill-mixing machinery and warming-up machinery.....	(X)	8,460	(X)	8,335
35594 31	Extruding machines.....	378	3,615	(S)	4,017
35594 41	Vulcanizing presses.....	969	19,177	r 556	r 9,828
35594 51	Tire-building equipment (except tire molds).....	(X)	4,498	(X)	5,987
35594 71	Tire recapping and repairing machinery and equipment, including recapping vulcanizers.....	(X)	15,422	(X)	r 15,038
35594 98	Other rubber-working machinery including calendering machines and parts for rubber-working machinery, but excluding tire molds.....	(X)	21,351	(X)	6,255
35594 00	Rubber-working machinery and equipment, excluding tire molds, not specified by kind.....	(X)	1,135	(X)	4,410
35595 --	Other special industry machinery and equipment <sup>1</sup> , total.....	(X)	485,417	(X)	414,691
35595 11	Petroleum refinery machinery and equipment, including parts.....	(X)	36,466	(X)	20,672
35595 31	Tobacco manufacturing machinery and equipment:				
35595 33	Cigarette-making machines and cigar-making machines.....	357	3,323		
35595 39	Cigar, cigarette and tobacco packaging and wrapping machines.....	331	1,931	(X)	14,895
35595 41	Other tobacco manufacturing machinery and equipment and parts.....	(X)	7,679		
35595 43	Clayworking machinery and equipment and parts (brick, tile, and ceramics).....	1,426	11,436	(NA)	10,575
35595 45	Cement-making machinery and equipment and parts, other than cement kilns.....	(X)	8,537	(X)	3,827
35595 49	Concrete-products machinery and equipment:				
35595 51	Concrete-block machines.....	345	5,358	(NA)	6,660
35595 55	Other concrete-products machinery and equipment and parts, including concrete-pipe making machines.....	(X)	27,819	(X)	16,434
35595 62	Glass-making machinery and equipment:				
35595 66	Bottle-forming machines.....	335	22,602	(NA)	10,938
35595 73	Other glass-making machinery and equipment and parts except lehrs....	(X)	15,013	(X)	10,504
35595 81	Shoemaking and repairing machinery and equipment and parts, including sole stitching machines.....	(X)	26,777	(X)	24,174
35595 85	Cotton-ginning machinery and equipment and parts.....	(X)	41,088	(X)	40,987
35595 89	Metal cleaning, degreasing, finishing, and drying machinery and equipment and parts.....	(X)	29,666	(X)	27,446
35595 91	Electronic tube-making machinery and equipment and parts.....	(X)	9,109	(X)	7,969
35595 92	Other special industrial machinery and equipment and parts (including incandescent lamp-making, paint making, stone-working, hatmaking, leatherworking, jewelers', pharmaceutical, ammunition and explosives loading machinery and equipment, etc).....	(X)	168,618	(X)	187,636
35595 93	Electric nonmetallic processing industrial furnaces and ovens, including kilns and lehrs.....	(X)	10,206	(X)	2,485
35595 98	Fuel fired kilns (cement, wood, and chemical processing).....	380	20,947	(NA)	14,606
35595 00	Other nonmetallic processing industrial furnaces and ovens and parts, including kilns and lehrs.....	(X)	10,072	(X)	4,859
35590 00	Other special industry machinery and equipment.....	(X)	28,770	(X)	10,024
35590 00	Special industry machinery, not specified by kind.....	(X)	34,023	(X)	35,736

(NA) Not available. (S) Does not meet publication standards. (X) Not applicable. <sup>r</sup>Revised.

<sup>1</sup>Some equipment in this product class may be leased rather than sold outright. For leased equipment, estimates of the value of products produced were reported. These estimates approximate the value of the products had they been sold outright and are based on market values of the products, tax or insurance valuations, etc.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35D-7



INDUSTRY SERIES

preliminary  
report

## General industry machines, n. e. c. SIC Code 3569

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the General Industry Machines, N.E.C., Industry had total shipments valued at \$682 million, an increase of 49 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 27 percent from 1958 and 8 percent from 1962 to a total of 36 thousand employees in 1963. Value added by manufacture amounted to \$419 million in 1963, an increase of 49 percent from 1958 and 48 percent from 1962.

The General Industry Machines, N.E.C., Industry includes establishments engaged primarily in the manufacture of machinery, equipment, and components for general industrial use, and for which no special classification is provided. Machine shops primarily engaged in producing machine and equipment parts, usually on a job or order basis, are classified in Industry 3599.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent

Table 1.--GENERAL STATISTICS FOR THE GENERAL INDUSTRY MACHINES, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3569)

Year	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	773	278	35,634	240,966	20,253	40,805	109,026	418,822	274,408	682,072	14,328	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	33,027	219,059	19,161	36,714	92,943	284,354	314,938	609,430	(20,353)	5
1961 <sup>2</sup> .....	(NA)	(NA)	30,646	200,595	17,243	33,881	86,223	256,854	297,415	572,232	20,087	4
1960 <sup>2</sup> .....	(NA)	(NA)	29,468	185,762	16,597	33,369	82,121	261,558	252,254	549,910	18,738	3
1959 <sup>2</sup> .....	(NA)	(NA)	28,901	175,567	16,889	33,248	80,523	306,859	207,556	496,245	20,225	1
1958 <sup>2</sup> .....	584	209	28,014	159,915	16,068	31,784	75,622	281,423	189,847	458,280	17,347	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

April 1965

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure

available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the General Industry Machines, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the General Industry Machines, N.E.C., Industry amounted to \$682 million. Of this total, \$87 million were products primary to other industries; and \$129 million were receipts for miscellaneous activities. The industry shipments of primary products represented 84 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 87 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$662 million of general industry machines, n.e.c., were shipped by all producers of these products. Of this total, \$466 million, or 84 percent, were shipped by plants classified in Industry 3569, General Industry Machines, N.E.C., while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 87.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.



Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809.

For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE GENERAL INDUSTRY MACHINES, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3569)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	773	278	35,634	240,966	20,253	40,805	109,026	418,822	274,408	682,072	14,328	28,014	281,423
New England.....	64	29	3,459	21,308	2,100	4,279	10,968	45,147	25,795	70,982	1,676	5,683	48,638
Massachusetts....	32	14	856	4,841	530	1,107	2,802	7,324	5,444	13,215	( <sup>1</sup> )	2,336	21,077
Connecticut.....	26	11	1,945	12,749	1,150	2,408	6,463	31,493	15,532	46,878	1,433	2,537	20,537
Middle Atlantic...	206	77	9,722	64,570	5,668	11,470	32,024	108,131	68,108	169,268	3,670	6,532	58,278
New York.....	87	30	5,119	35,753	2,722	5,441	15,833	49,315	31,559	81,674	2,356	3,442	28,416
New Jersey.....	59	22	1,642	9,800	1,154	2,368	6,122	19,747	12,959	33,112	( <sup>1</sup> )	1,474	13,719
Pennsylvania.....	60	25	2,961	19,017	1,792	3,661	10,069	39,069	23,590	54,482	848	1,616	16,143
East North Central	218	84	9,391	59,505	6,194	12,323	33,930	109,113	71,885	182,065	3,274	7,536	76,565
Ohio.....	61	19	2,543	15,483	1,462	2,792	7,670	26,754	17,616	45,067	781	2,133	20,642
Illinois.....	61	24	1,727	11,822	1,122	2,146	6,264	24,108	12,196	36,381	645	2,834	30,076
Wisconsin.....	29	15	1,314	8,379	931	1,975	5,277	17,683	14,135	32,264	( <sup>1</sup> )	1,293	15,842
West North Central	48	23	1,751	9,405	1,221	2,528	5,489	19,455	15,599	34,790	918	868	9,158
Minnesota.....	17	10	689	4,000	465	940	2,181	7,732	5,860	13,380	( <sup>1</sup> )	449	3,875
South Atlantic....	39	8	748	3,795	546	1,026	2,285	8,551	7,227	14,880	( <sup>1</sup> )	1,307	13,583
East South Central	22	6	998	5,721	725	1,592	3,363	10,383	10,474	21,255	( <sup>1</sup> )	471	4,469
West South Central	37	11	844	4,869	519	1,075	2,425	10,952	6,316	17,120	( <sup>1</sup> )	1,014	6,522
Texas.....	25	7	416	2,160	280	575	1,192	5,489	2,831	8,279	( <sup>1</sup> )	656	4,018
West.....	139	40	8,721	71,793	3,280	6,512	18,542	107,090	69,004	171,712	3,694	4,603	64,210
California.....	119	34	8,073	67,860	2,854	5,643	16,024	97,386	61,925	156,678	3,554	4,032	57,665

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF GENERAL INDUSTRY MACHINES, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the General Industry Machines, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers		
		1963		1958 <sup>1</sup>
		Quantity (number of units)	Value (\$1,000)	Value (\$1,000)
3569- --	General industrial machinery, n.e.c., total.....	(X)	662,486	467,391
	Packaging and wrapping machines (except for food, tobacco, liquor, wine, beer, and dairy products):			
35690 12	Filling-capping machines, including collapsible tube filling, closing, sealing machines.....	1,379	4,773	46,449
35690 13	Aerosol packaging machines.....	6,538	21,761	
35690 14	Bag and pouch forming, filling, and sealing machines.....	(X)	32,464	
35690 19	Other wrapping and packaging machinery, such as bundling, banding, unit packaging and tablet wadding.....	(X)	32,464	
35690 25	Box, case, carton, and tray setting up, loading, lining, closing and sealing machines.....	726	6,697	
35690 26	Labeling and marking machines (except for food, tobacco, liquor, beer, wine, and dairy products).....	3,716	7,782	
	General industrial machinery and equipment, n.e.c.:			
35690 94	Gas generating equipment.....	(X)	19,594	387,835
35690 95	Filters and strainers.....	(X)	116,136	
35690 96	Centrifugals and separators (except cream, grain and berry separators).....	(X)	20,727	
35690 97	Hydraulic jacks.....	77,817	23,343	
35690 98	All other general industrial machinery and equipment.....	(X)	345,001	
35690 00	General industrial machinery, not specified by kind.....	(X)	64,208	33,107

(X) Not applicable.

<sup>1</sup>Quantity data are not available for 1958.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35E-1



preliminary  
report

INDUSTRY SERIES

## Pumps and compressors

SIC Code 3561

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Pumps and Compressors Industry shipped products valued at \$1,366 million, an increase of 23 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 2 percent from 1958 and 4 percent from 1962 to a total of 59 thousand employees in 1963. Value added by manufacture amounted to \$740 million in 1963, an increase of 37 percent from 1958 and 9 percent from 1962.

The Pumps and Compressors Industry includes establishments engaged primarily in the manufacture of pumps, compressors, and pumping equipment for general industrial use.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE PUMPS AND COMPRESSORS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3561)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	637	264	58,854	379,718	37,501	77,886	216,454	740,453	638,210	1,366,044	28,643	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	61,609	383,325	38,180	78,648	214,398	681,380	601,994	1,296,653	24,672	3
1961 <sup>2</sup> .....	(NA)	(NA)	59,415	353,585	37,005	75,601	196,187	636,007	569,392	1,229,662	18,480	2
1960 <sup>2</sup> .....	(NA)	(NA)	62,806	360,813	39,716	80,543	206,072	674,077	603,031	1,275,082	26,133	2
1959 <sup>2</sup> .....	(NA)	(NA)	59,398	330,516	38,134	76,380	188,592	623,976	580,712	1,207,558	23,883	1
1958.....	582	243	60,042	321,509	37,407	74,975	180,146	542,037	535,221	1,114,053	24,678	(X)
1957 <sup>3</sup> .....	496	237	60,324	272,632	41,269	82,859	168,613	495,471	460,547	974,810	18,015	(X)
1947 <sup>3</sup> .....	448	237	56,142	172,857	41,413	85,505	119,763	291,658	279,555	571,213	14,631	(X)
1939 <sup>3</sup> .....	369	(NA)	(NA)	(NA)	20,063	(NA)	27,480	84,780	57,034	141,814	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup> Includes expenditures for plants under construction but not in operation. This information was not collected in 1959 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup> The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup> Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





## ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

## EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

## VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

## VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Pumps and Compressors Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Pumps and Compressors Industry amounted to \$1,366 million. Of this total, \$160 million were products primary to other industries; and \$162 million were receipts for miscellaneous activities. The industry shipments of primary products represented 87 percent of the total manufactured products shipments, primary and secondary. The 1958 ratio was also 87 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,235 million of pumps and compressors were shipped by all producers of these products. Of this total \$1,044 million, or 85 percent were shipped by plants classified in Industry 3561, Pumps and Compressors while the remainder was shipped by plants classified in other industries. The comparable percentage for 1958 was also 85.

## GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these re-

ports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE PUMPS AND COMPRESSORS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3561)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	637	264	58,854	379,718	37,501	77,886	216,454	740,453	638,210	1,366,044	28,643	60,042	542,037
New England.....	31	17	4,199	26,136	2,540	5,319	14,261	52,637	30,083	82,475	1,757	3,594	30,682
Massachusetts....	19	11	2,327	13,767	1,460	3,067	8,239	24,219	16,715	41,324	1,110	1,678	12,766
Middle Atlantic...	122	50	16,984	111,023	11,017	22,576	66,190	193,788	202,873	394,193	7,939	19,384	162,390
New York.....	38	13	6,513	41,756	4,213	8,600	24,807	73,484	87,125	160,235	3,203	9,570	78,082
New Jersey.....	39	15	5,976	39,228	4,113	8,206	25,598	69,435	73,519	144,483	2,314	5,409	45,824
Pennsylvania....	45	22	4,495	30,039	2,691	5,770	15,785	50,869	42,229	89,475	2,422	4,405	38,484
East North Central	197	92	22,318	146,619	14,233	29,961	82,502	288,932	221,440	502,670	11,463	24,839	226,783
Ohio.....	49	27	8,965	58,214	5,650	11,675	32,810	106,666	80,829	185,376	5,031	9,004	77,768
Indiana.....	23	9	2,315	13,549	1,502	3,061	7,788	26,907	25,711	51,970	1,185	2,341	21,314
Illinois.....	54	25	6,252	41,543	4,009	8,976	23,775	97,729	64,645	158,403	3,069	5,751	67,708
Michigan.....	37	15	1,883	12,614	1,216	2,484	6,762	23,960	16,803	40,771	986	4,116	24,814
Wisconsin.....	34	16	2,903	20,699	1,856	3,765	11,367	33,670	33,452	66,150	1,192	3,627	35,179
West North Central	41	17	3,894	24,069	2,592	5,277	14,856	62,378	40,406	100,979	1,475	3,001	27,788
Iowa.....	9	3	812	5,079	487	1,058	2,817	9,748	6,351	15,940	(1)	662	5,523
Missouri.....	9	5	1,202	7,374	828	1,631	4,750	14,874	15,023	29,777	(1)	820	8,245
South Atlantic....	36	10	698	3,392	491	997	2,031	7,393	5,267	12,664	(1)	550	2,939
Georgia.....	6	3	373	1,812	241	471	924	4,090	2,517	6,580	(D)	150	1,068
Florida.....	20	6	272	1,347	212	453	958	2,895	2,236	5,164	(1)	277	1,355
East South Central	12	3	635	3,576	463	1,000	2,412	5,617	5,862	11,287	(1)	362	2,636
West South Central	69	32	3,861	22,827	2,623	5,381	12,836	50,822	49,869	99,582	2,843	2,620	27,079
Texas.....	41	16	2,065	12,605	1,433	3,067	7,283	30,462	28,097	56,343	741	1,323	14,903
Mountain.....	13	5	448	3,084	220	545	1,400	7,561	9,629	17,184	(1)	341	4,972
Pacific.....	116	38	5,817	38,992	3,322	6,830	19,966	71,325	72,781	145,010	2,197	5,351	56,768
California.....	109	37	5,779	38,763	3,301	6,790	19,837	70,892	72,219	144,036	2,191	5,318	56,464

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.



Table 3.--QUANTITY AND VALUE OF PUMPS AND COMPRESSORS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Pumps and Compressors Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Code	Product	1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value <sup>1</sup> (\$1,000)
3561- --	Pumps and compressors, total.....	(X)	1,234,556	(X)	1,015,841
35611 --	Industrial pumps, except hydraulic fluid power:				
	As reported in the census of manufactures.....	(X)	1,323,425	(X)	295,373
	As reported on Census Annual Form MA-35P.....	(X)	1,320,756	(X)	(NA)
	Value of drivers (reported separately).....	(X)	267,233	(X)	(NA)
	Reciprocating pumps:				
35611 01	Direct acting steam driven.....	1,698	2,453	1,923	4,609
35611 03	Power operated, other than steam.....	58,668	19,821	45,485	16,716
35611 07	Turbine pumps, vertical (including deep well).....	25,232	37,240	18,217	36,310
	Centrifugal pumps:				
	Single stage, single suction, close coupled:				
35611 11	1/2" discharge outlet and under.....	35,372	1,443	166,882	10,575
35611 12	3/4" and 1" discharge outlet.....	136,128	6,184		
35611 14	1-1/4" and 1-1/2" discharge outlet.....	111,429	8,199		
35611 15	2" and 2-1/2" discharge outlet.....	42,862	5,904		
35611 16	3" and 4" discharge outlet.....	22,955	6,544	13,144	6,005
35611 19	Over 4" discharge outlet.....	4,256	2,820	2,614	2,308
	Single stage, single suction, frame mounted:				
35611 21	1/2" discharge outlet and under.....	12,036	484	129,573	11,273
35611 22	3/4" and 1" discharge outlet.....	139,133	7,138		
35611 23	1-1/4" and 1-1/2" discharge outlet.....	187,541	11,757		
35611 24	2" and 2-1/2" discharge outlet.....	42,920	7,763		
35611 25	3" discharge outlet.....	24,115	6,054	19,915	5,824
35611 26	4" to 6" discharge outlet.....	16,285	9,465	9,117	7,992
35611 29	Over 6" discharge outlet.....	2,072	4,819	1,244	2,515
	Single stage, double suction:				
35611 42	Under 4" discharge outlet.....	9,896	2,685	5,460	2,934
35611 44	4" and 5" discharge outlet.....	4,138	3,728	4,089	4,969
35611 46	6" and 7" discharge outlet.....	2,012	2,068	1,480	2,491
35611 48	8" and 12" discharge outlet.....	2,145	4,756	2,004	6,166
35611 49	Over 12" discharge outlet.....	431	3,160	525	5,289
	Multistage (single or double suction):				
35611 52	1-1/2" discharge outlet and under.....	9,491	1,542	8,273	4,692
35611 54	2" and 3" discharge outlet.....	3,992	5,614	2,581	7,685
35611 56	4" and 5" discharge outlet.....	1,455	4,585	829	4,909
35611 58	6" and 7" discharge outlet.....	978	4,757	535	5,234
35611 59	8" and over discharge outlet.....	535	11,449	222	5,098
	Propeller and mixed flow:				
35611 62	20" and under.....	1,577	3,925	1,649	5,910
35611 64	Over 20".....	538	7,023		
	All other centrifugal pumps (including can, etc.):				
35611 65	1-1/2" discharge outlet and under.....	136,889	3,664	(NA)	44,889
35611 66	2" to 6" discharge outlet.....	25,381	7,255		
35611 69	Over 6" discharge outlet.....	2,409	10,482		
	Rotary pumps:				
	100 p.s.i. and under, designed pressure:				
35611 72	10 g.p.m. and under, designed capacity.....	220,143	5,522	351,120	5,836
35611 73	11-299 g.p.m. designed capacity.....	88,142	8,298	122,712	9,041
35611 74	300 g.p.m. and over, designed capacity.....	4,226	1,315	1,616	1,279
	101-250 p.s.i. designed pressure.....	153,632	10,002	117,764	7,040
35611 76	251-500 p.s.i. designed pressure.....	72,524	4,301	27,000	3,100
35611 79	Over 500 p.s.i. designed pressure.....	7,754	1,197	6,759	1,641
35611 98	Other industrial pumps.....	37,512	8,107	(NA)	20,513
35611 00	Industrial pumps (not specified by kind).....	(X)	-	(X)	15,183
35612 --	Hydraulic fluid power pumps and motors:				
	As reported in the census of manufactures.....	(X)	1,134,885	(X)	76,769
	As reported on Census Annual Form MA-35P.....	(X)	1,135,210	(X)	(NA)
	Value of drivers (reported separately).....	(X)	27,641	(X)	(NA)
	Hydraulic fluid power pumps and motors:				
35612 81	Gear type.....	974,447	35,632	519,036	21,292
35612 83	Vane type.....	306,210	22,204	829,887	26,756
	Piston type:				
35612 85	Axial.....	77,193	38,055	42,026	17,744
35612 87	Rotary or radial.....	12,915	12,267		
	Vacuum pumps (except laboratory):				
35612 91	Wet.....	36,764	11,097	18,988	10,977
35612 92	Dry.....	71,890	8,314	(4)	(4)

See footnotes at end of table.



Table 3.--QUANTITY AND VALUE OF PUMPS AND COMPRESSORS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958--Continued

Code	Product	1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value <sup>1</sup> (\$1,000)
35613 --	Domestic water systems and pumps, including pump jacks and cylinders: As reported in the census of manufactures.....	(X)	<sup>1</sup> 82,203	(X)	67,656
	As reported on Census Forms M350, total.....	(X)	<sup>1</sup> 79,403	(X)	66,474
	Domestic water systems: Jet pump systems: Deep well (except submersible):				
35613 03	1/3 hp. and under.....	24,023	1,274	25,397	1,649
35613 04	1/2 hp.....	62,961	4,012	67,870	5,266
35613 05	3/4-1 hp.....	<sup>1</sup> 77,529	<sup>1</sup> 6,332	51,203	5,339
35613 06	Over 1 hp.....	8,881	1,217	7,939	1,595
	Shallow well:				
35613 07	1/3 hp. and under.....	<sup>1</sup> 160,938	8,146	134,898	8,178
35613 08	1/2 hp.....	<sup>1</sup> 53,885	<sup>1</sup> 3,225	35,396	2,510
35613 09	3/4-1 hp.....	9,963	702	9,812	861
35613 11	Over 1 hp.....	3,860	383	2,748	289
	Convertible jet:				
35613 12	1/3 hp. and under.....	77,586	4,510	79,031	4,988
35613 13	1/2 hp.....	124,615	8,236	87,217	6,773
35613 14	3/4-1 hp.....	50,894	4,256	19,601	2,017
35613 15	Over 1 hp.....	2,544	356	1,145	219
	Nonjet pumps systems (except submersible): Deep well:				
35613 16	Under 1 hp.....	8,617	807	14,440	1,612
35613 17	1/3 hp.....	747	136	1,018	176
35613 18	Over 3 hp.....	586	574	119	184
	Shallow well:				
35613 21	Under 250 gph.....	40,389	2,544	872	62
35613 22	250-499 gph.....			<sup>1</sup> 65,810	4,098
35613 23	500 gph. and over.....			12,821	1,479
	Submersible pump systems:				
35613 24	1/3 hp. and under.....	<sup>1</sup> 34,392	<sup>1</sup> 3,513	8,673	1,050
35613 25	1/2 hp.....	<sup>1</sup> 70,994	<sup>1</sup> 8,182	28,816	4,415
35613 26	3/4-1 hp.....	<sup>1</sup> 67,712	<sup>1</sup> 10,538	30,228	6,227
35613 27	Over 1 hp. up to and including 5 hp.....	<sup>1</sup> 27,602	<sup>1</sup> 7,664	9,916	4,988
	Domestic hand and windmill pumps:				
35613 31	Pitcher.....	84,205	415	85,127	363
35613 33	Other hand and windmill pumps.....	20,332	417	25,524	502
35613 40	Pump jacks.....	12,299	443	14,382	469
35613 60	Cylinders, sold separately.....	70,496	743	95,827	1,165
35614 --	Air and gas-compressors, except refrigeration compressors: As reported in the census of manufactures.....	(X)	<sup>1</sup> 282,622	(X)	260,226
	As reported on Census Annual Form MA-35P.....	(X)	<sup>1</sup> 285,475	(X)	(NA)
	Value of drivers (reported separately).....	(X)	<sup>2</sup> 28,977	(X)	(NA)
	Air compressors:				
	Stationary:				
35614 11	1-1/2 hp. and under.....	<sup>1</sup> 114,169	<sup>1</sup> 9,813	91,973	9,349
35614 12	Over 1-1/2-5 hp.....	38,970	11,714	37,095	14,584
35614 13	6-15 hp.....	13,229	9,861	8,483	9,453
35614 15	16-100 hp.....	7,859	27,150	5,838	27,950
35614 16	101-250 hp.....	1,436	16,333	818	9,639
35614 17	251-1,000 hp.....	<sup>1</sup> 255	<sup>1</sup> 8,211	262	11,483
35614 19	Over 1,000 hp.....	<sup>1</sup> 31	<sup>1</sup> 5,466	47	5,894
	Portable:				
35614 31	Under 75 c.f.m.....	<sup>1</sup> 73,273	<sup>1</sup> 9,637	47,295	25,639
35614 32	75-150 c.f.m.....	6,323	18,370		
35614 33	151-400 c.f.m.....	674	5,654		
35614 35	Over 400 c.f.m.....	1,036	18,660	973	14,953
	Gas compressors:				
35614 41	Centrifugal and axial.....	<sup>1</sup> 417	<sup>1</sup> 26,980	639	35,176
	Reciprocating and rotary: Integral diesel, or gas-engine powered (reciprocating):				
35614 52	250 hp. and under.....	344	<sup>1</sup> 3,100	685	4,807
35614 55	251-1,000 hp.....	160	<sup>1</sup> 14,134	374	29,244
35614 57	Over 1,000 hp.....	186	<sup>1</sup> 43,032	177	33,209
	Other than integral engine powered (reciprocating and rotary):				
35614 62	250 hp. and under.....	1,856	6,401	275	2,098
35614 65	251-1,000 hp.....	269	7,954		
35614 67	Over 1,000 hp.....	48	5,247		
35614 97	Other compressors <sup>6</sup> .....	155,262	8,781	(X)	( <sup>4</sup> )
35614 00	Compressors, (not specified by kind).....	(X)	-	(X)	3,510

See footnotes at end of table.

Table 3.--QUANTITY AND VALUE OF PUMPS AND COMPRESSORS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958--Continued

Code	Product	1963		1958 <sup>†</sup>	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value <sup>‡</sup> (\$1,000)
35615 --	Pumps and compressors, n.e.c., except refrigeration compressors, total.... Products included in the census of manufactures and on Census Annual Form MA-35P: As reported in the census of manufactures <sup>7</sup> ..... As reported on Census Form MA-35P..... Value of drivers (reported separately).....	(X)	146,958	(X)	123,889
		(X)	186,858	(X)	84,373
		(X)	179,201	(X)	(NA)
		(X)	26,418	(X)	(NA)
35615 11	Oil-well and oil-field pumps (except boiler-feed): Subsurface pumps for oil-well pumping.....	141,751	133,118	(NA)	25,539
35615 13	Slush pumps.....	152	6,041	714	9,091
35615 15	Other oil-well and oil-field pumps.....	1,656	5,554	(NA)	8,779
35615 96	Other pumps (except automotive) (such as oil burner and appliance pumps, fire engine pumps, laboratory pumps, sump pumps, etc.).....	1,610,261	28,070	(NA)	840,964
35615 31	Industrial spraying equipment: Power paint-spraying outfits and liquid power sprayers, except agricultural types.....	(X)	54,164	(X)	32,397
35615 51	Hand sprayers, except agricultural and flame types.....	(NA)	1,919	339,402	3,466
35615 00	Pumps and compressors, not specified by kind.....	(X)	4,017	(X)	3,653
35616 11	Parts and attachments for pumps, air and gas compressors, and pumping equipment.....	(X)	248,667	(X)	180,166
35610 00	Pumps and compressors, not specified by kind.....	(X)	15,796	(X)	11,762

- Represents zero. n.e.c. Not elsewhere classified. (NA) Not available. (X) Not applicable. <sup>†</sup>Revised.

<sup>1</sup>For these products, data were also collected on annual Form MA-35P, "Pumps and Compressors," or monthly Form M35G, "Farm Pumps." In lieu of asking for detailed statistics on these products in the Census of Manufactures, respondents were asked to report only value of shipments for specified classes of products for which separate figures had previously been collected on the annual or monthly form. In most cases, the value figures reported in the census of manufactures for each class of product agreed closely with the corresponding figures reported in the commodity surveys. However, there were some differences between the Census figures and the commodity survey figures. These variations were due primarily to the following reasons:

- Use of different reporting periods (calendar year vs. fiscal year).
- Use of different bases for reporting value (company sales vs. factory production).
- Use of estimates in reporting data on the commodity surveys, whereas census of manufactures figures generally represent more exact shipments figures.

<sup>2</sup>The value of drivers was reported only at the product class level. For each product line, value figures exclude, except as noted for codes 3561452-57, the value of drivers (electric motors or prime movers) shipped with that product. Separate data on the value of drivers are not available for product class 35613.

<sup>3</sup>Does not include hydraulic fluid power pumps for power steering units in passenger automobiles. In 1958 such data are included.

<sup>4</sup>Included with product code 3561596, "Other pumps."

<sup>5</sup>Includes the value of drivers.

<sup>6</sup>Includes compressors for air brake systems used in transportation equipment and pneumatic (air) power compressors and motors.

<sup>7</sup>Data reported in the census of manufactures differ from comparable figures reported in annual survey MA-35P chiefly due to companies not included in the annual survey. In addition, there were minor differences between figures for a few companies reporting in the two surveys.

<sup>8</sup>Represents "Other pumps and compressors" and includes dry vacuum pumps. No separate figures are available for "Other pumps" compared with "Other compressors."

# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.



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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35E-2



INDUSTRY SERIES

preliminary  
report

## Ball and roller bearings

SIC Code 3562

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Ball and Roller Bearings Industry had total shipments valued at \$1,001 million, an increase of 54 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 13 percent from 1958 but a 2 percent decrease from 1962 to a total of 52 thousand employees in 1963. Valued added by manufacture amounted to \$630 million in 1963, an increase of 55 percent from 1958 and 1 percent from 1962.

The Ball and Roller Bearings Industry includes establishments engaged primarily in the manufacture of ball and roller bearings. Establishments primarily engaged in manufacturing bearings, except ball and roller, are classified in Industry 3566.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE BALL AND ROLLER BEARINGS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3562)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	125	93	52,316	348,700	42,052	85,970	263,025	630,098	372,267	1,000,962	39,235	(X)
1962.....	(NA)	(NA)	53,397	348,048	42,458	84,964	249,621	623,505	345,394	962,726	32,881	3
1961.....	(NA)	(NA)	50,288	306,430	39,584	76,779	215,375	530,444	291,615	824,134	32,269	2
1960.....	(NA)	(NA)	54,113	315,114	42,562	84,132	225,751	547,608	315,842	865,331	44,862	2
1959.....	(NA)	(NA)	53,707	325,313	43,373	91,561	243,186	599,776	358,661	920,049	35,488	1
1958.....	107	81	46,439	241,160	35,757	67,323	169,117	407,744	231,314	649,640	34,303	(X)
1954 <sup>3</sup> .....	102	81	49,720	214,088	39,974	78,233	159,813	329,393	207,624	543,622	27,828	(X)
1947 <sup>3</sup> .....	94	74	52,174	153,333	45,075	91,323	125,711	259,060	106,524	365,584	21,872	(X)
1939 <sup>3</sup> .....	58	(NA)	(NA)	(NA)	19,164	(NA)	27,219	77,497	27,989	105,486	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Ball and Roller Bearings Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Ball and Roller Bearings Industry amounted to \$1,001 million. Of this total, \$31 million were products primary to other industries; and \$34 million were receipts for miscellaneous activities. The industry shipments of primary products represented 97 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 98 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$963 million of ball and roller bearings were shipped by all producers of these products. Of this total, \$936 million, or 97 percent, were shipped by plants classified in Industry 3562, Ball and Roller Bearings while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 98.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE BALL AND ROLLER BEARINGS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3562)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	125	93	52,316	348,700	42,052	85,970	263,025	630,098	372,267	1,000,962	39,235	46,439	407,744
New England.....	26	23	17,017	104,540	13,856	28,144	78,628	182,411	68,675	254,264	9,873	15,460	129,767
Middle Atlantic..	40	27	13,546	94,526	10,635	21,755	69,601	163,895	99,066	260,782	10,843	12,095	113,221
Pennsylvania...	17	12	5,127	34,958	3,965	7,437	24,388	63,819	39,595	102,935	3,072	4,942	50,230
North Central....	38	29	20,028	136,173	16,103	32,922	103,345	262,981	192,054	455,003	14,930	18,432	162,235
Illinois.....	9	7	2,704	19,489	1,968	4,220	13,405	33,084	25,562	60,532	1,096	1,680	19,515
Michigan.....	9	5	4,298	31,034	3,661	7,603	24,599	58,898	30,354	89,248	4,078	3,796	37,289
South.....	11	8	1,157	9,590	996	2,102	8,540	15,972	10,367	23,965	3,036	253	1,526
Pacific.....	10	6	568	3,871	462	1,047	2,911	4,839	2,105	6,948	553	199	995
California.....	10	6	568	3,871	462	1,047	2,911	4,839	2,105	6,948	553	199	995

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF BALL AND ROLLER BEARINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Ball and Roller Bearings Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of total shipments including interplant transfers (\$1,000)	
		1963	1958
3562- --	Ball and roller bearings, total.....	<sup>1</sup> 963,339	<sup>1</sup> 636,777
35621 --	Ball bearings, complete, total.....	<sup>1</sup> 388,793	<sup>1</sup> 289,073
	Annular, ground or precision (including self-aligning):		
35621 11	Single row conrad, miniature (below 9mm o.d.).....	45,616	<sup>r</sup> 178,679
35621 13	Single row conrad, other.....	158,829	
35621 14	Single row maximum capacity type.....	41,562	19,685
35621 16	Double row.....	23,519	15,138
35621 18	Angular contact.....	20,809	<sup>r</sup> 16,841
35621 19	All other ground or precision bearings.....	52,651	<sup>r</sup> 22,532
35621 25	Annular, unground (including self-aligning).....	8,532	8,757
35621 33	Thrust, ground.....	14,110	13,305
35621 35	Thrust, unground.....	2,063	
35621 51	Other ball bearings.....	17,978	<sup>r</sup> 14,136
35621 00	Not specified by kind.....	3,124	-
35622 --	Roller bearings, complete.....	<sup>1</sup> 445,929	<sup>1</sup> 269,316
35622 11	Cylindrical (except thrust).....	79,117	52,999
	Spherical (including hourglass and barrel but excluding thrust):		
35622 23	Single row.....	10,836	25,515
35622 27	Double row.....	14,600	
35622 31	Taper (except thrust).....	295,606	161,144
35622 41	Needle.....	24,346	19,109
35622 51	Thrust (all types).....	12,708	7,780
35622 98	Other roller bearings.....	6,196	2,769
35622 00	Not specified by kind.....	2,520	-
35623 --	Mounted bearings, total.....	<sup>1</sup> 65,098	<sup>1</sup> 34,984
35623 11	Ball.....	<sup>2</sup> 41,864	<sup>2</sup> 20,654
35623 51	Roller.....	<sup>3</sup> 23,234	<sup>3</sup> 14,330
35624 --	Parts and components for ball and roller bearings, including balls and rollers, sold separately, total.....	<sup>1</sup> 60,368	<sup>1</sup> 41,069
35624 11	Balls.....	26,311	18,493
35624 31	Rollers.....	8,066	8,253
35624 51	Other antifriction bearing components and parts, including unassembled bearings, cages, housing closures, collars, races, etc.....	25,242	14,323
35624 00	Not specified by kind.....	749	-
35620 00	Ball and roller bearings, not specified by kind.....	3,151	2,335

- Represents zero. <sup>r</sup>Revised.

<sup>1</sup>Of these totals, the following figures (in millions of dollars) represent the value of shipments of ball and roller bearings transferred from one plant of a company to another plant of the same company:

Product code	1963	1958
3562-	116	86
35621	20	21
35622	96	65
35623		
35624		

<sup>2</sup>In 1963 represents 8,593 thousand units; for 1958 represents 4,911 thousand units (revised).

<sup>3</sup>In 1963 represents 944 thousand units; for 1958 represents 771 thousand units.

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# 1963 CENSUS OF MANUFACTURES

MAY 1965

MC63(P)-35E-2

## CHANGE SHEET FOR PRELIMINARY REPORT

### BALL AND ROLLER BEARINGS

(SIC Code 3562)

The revised figures for the selected products shown below should be substituted for those previously published for 1963 in table 3 of the preliminary report "Ball and Roller Bearings" for the 1963 Census of Manufactures. Additional revisions of lesser significance will be shown in the final report.

Table 3.--QUANTITY AND VALUE OF BALL AND ROLLER BEARINGS SHIPPED BY ALL PRODUCERS IN THE  
UNITED STATES 1963

Product code	Product	1963 value of total shipments including interplant transfers	
		As revised	As published
	Ball bearings, complete:		
	Annular, ground or precision (including self-aligning):		
35621 11	Single row conrad, miniature (below 9mm o.d.).....	35,216	45,616
35621 13	Single row conrad, other.....	170,852	158,829
35621 18	Angular contact.....	19,572	20,809
	Roller bearings, complete:		
35622 11	Cylindrical (except thrust).....	65,588	79,117
	Spherical (including hourglass and barrel but excluding thrust):		
35622 23	Single row.....	7,836	10,836
35622 27	Double row.....	33,949	14,600
35623 --	Mounted bearings, total.....	61,676	65,098
35623 11	Ball.....	<sup>1</sup> 39,346	41,864
35623 51	Roller.....	<sup>2</sup> 22,330	23,234

<sup>1</sup>Represents 8,043 thousand units.

<sup>2</sup>Represents 924 thousand units.

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35E-3



INDUSTRY SERIES

preliminary  
report

## Blowers and fans

SIC Code 3564

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Blowers and Fans Industry shipped products valued at \$318 million, an increase of 17 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 3 percent from 1958 but an increase of 5 percent from 1962 to a total of 15 thousand employees in 1963. Value added by manufacture amounted to \$179 million in 1963, an increase of 24 percent from 1958 and 6 percent from 1962.

The Blowers and Fans Industry includes establishments engaged primarily in the manufacture of blowers, and exhaust and ventilating fans for general industrial, commercial and household use. Free air circulating fans for use on desks, pedestals, or wall brackets are classified in Industry 3634.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent

Table 1.—GENERAL STATISTICS FOR THE BLOWERS AND FANS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3564)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	237	98	15,407	94,350	10,902	21,989	58,177	179,486	137,470	318,081	7,023	(X)
1962.....	(NA)	(NA)	14,722	93,582	9,832	20,423	51,749	169,245	140,182	306,971	(7,678)	6
1961.....	(NA)	(NA)	14,432	88,915	9,650	19,508	49,714	155,094	131,581	286,192	5,162	6
1960.....	(NA)	(NA)	14,593	88,498	9,849	19,701	49,907	153,772	125,294	280,495	5,996	5
1959.....	(NA)	(NA)	15,540	88,640	10,493	21,203	50,466	154,584	132,876	285,564	4,504	2
1958.....	207	104	15,947	82,457	10,980	21,356	50,322	145,050	121,646	271,629	5,569	(X)
1954 <sup>3</sup> .....	214	106	18,125	80,850	13,724	27,349	54,033	153,366	124,415	279,693	5,873	(X)
1947 <sup>3</sup> .....	192	93	14,794	44,202	11,087	23,389	30,329	84,429	56,287	140,716	3,551	(X)
1939 <sup>3</sup> .....	89	(NA)	(NA)	(NA)	4,069	(NA)	5,563	17,474	12,168	29,642	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

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years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure

available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Blowers and Fans Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Blowers and Fans Industry amounted to \$318 million. Of this total, \$64 million were products primary to other industries; and \$28 million were receipts for miscellaneous activities. The industry shipments of primary products represented 78 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 83 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$295 million of blowers and fans were shipped by all producers of these products. Of this total, \$226 million, or 77 percent, were shipped by plants classified in Industry 3564, Blowers and Fans while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 79.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.



Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809.

For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE BLOWERS AND FANS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3564)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	237	98	15,407	94,350	10,902	21,989	58,177	179,486	137,470	318,081	7,023	15,947	145,050
New England.....	17	7	2,348	15,002	1,612	3,195	9,121	22,891	18,951	41,823	1,687	2,559	21,823
Middle Atlantic...	41	20	3,653	22,946	2,614	5,421	13,777	38,933	30,707	70,286	1,929	4,051	36,424
New York.....	18	8	2,131	12,976	1,646	3,374	8,881	23,186	14,537	37,295	1,509	2,162	20,341
New Jersey.....	11	7	860	6,129	432	884	2,330	7,751	11,470	20,218	(1)	1,099	8,193
Pennsylvania.....	12	5	662	3,841	536	1,163	2,566	7,996	4,700	12,773	(1)	790	7,890
East North Central.....	83	40	5,701	33,900	3,879	7,781	19,937	69,918	52,538	122,840	2,228	6,064	53,728
Ohio.....	21	10	1,559	9,748	1,019	2,024	5,527	19,880	14,893	35,330	(1)	1,528	15,214
Indiana.....	13	6	1,274	6,937	828	1,603	3,997	10,883	9,480	20,216	682	1,087	7,781
Illinois.....	27	11	1,270	7,059	931	1,941	4,181	17,479	13,249	31,326	570	1,154	10,014
Michigan.....	13	7	1,284	8,267	875	1,750	5,148	16,583	13,047	29,079	(1)	2,019	18,832
Wisconsin.....	9	6	314	1,889	226	490	1,084	5,093	1,869	6,889	(1)	276	1,887
West North Central.....	13	5	492	3,145	297	572	1,674	4,723	3,724	8,975	(1)	469	4,127
Minnesota.....	5	4	439	2,852	257	490	1,440	4,193	3,080	7,799	(1)	311	2,640
South.....	46	13	1,605	9,086	1,356	2,666	7,214	25,157	18,596	43,598	697	1,575	17,598
West.....	37	13	1,608	10,271	1,144	2,354	6,454	17,864	12,954	30,559	(1)	1,229	11,350
California.....	26	12	1,499	9,716	1,070	2,210	6,101	16,980	12,181	28,930	(1)	1,059	10,172

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF BLOWERS AND FANS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Blowers and Fans Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3564- --	Blowers and fans, total.....	294,686	252,899
35641 --	Industrial fans and blowers, including blowers, industrial, exhaust, attic, and ventilating fans, and parts:		
35641 11	As reported in the census of manufactures <sup>1</sup> .....	198,006	170,636
	As reported on Census Quarterly Form M35H, total <sup>1</sup> .....	<sup>r</sup> 192,674	160,686
	Fans and blowers group.....	<sup>r</sup> 164,173	141,009
	Axial fans (vaneaxial and tubeaxial), total.....	19,450	11,150
35641 13	Directly connected to driver.....	15,852	7,930
35641 15	Belt driven.....	3,598	3,220
	Centrifugal fans and blowers, total.....	97,789	85,690
35641 17	Blower filter units.....	3,291	2,538
35641 19	Classes I and II fans.....	17,528	17,864
35641 21	Classes III and IV fans.....	9,294	13,772
35641 23	Furnaces and light weight air-conditioning blowers.....	9,412	13,075
35641 25	Industrial fans, excluding positive displacement blowers and turbo-blowers.....	26,087	10,132
35641 27	Positive displacement blowers (excluding turbo-blowers).....	10,370	15,783
35641 29	Turbo blowers (single stage, single and double-inlet).....	11,033	
35641 31	Small housed blowers (utility sets).....	10,774	12,526
	Industrial propeller fans.....	21,793	21,639
35641 33	Directly connected to driver, excluding window-type household exhaust fans, built-in household and kitchen ventilating and exhaust fans, and all free-air circulating fans.....	8,611	11,357
35641 35	Belt driven.....	9,261	6,785
35641 37	Penthouses, shutter, guards, and other accessories for industrial propeller fans.....	3,921	3,497
35641 39	Parts for industrial fans and blowers.....	25,141	22,530
	Power roof ventilators group.....	<sup>r</sup> 28,501	19,677
35641 41	Axial and propeller type.....	14,344	7,408
35641 43	Centrifugal type.....	13,754	12,175
35641 45	Parts for power roof ventilators.....	403	94
35642 --	Dust collection, and air purification equipment and air washers, total.....	84,583	70,064
	Air washers:		
35642 31	As reported in census of manufactures <sup>1</sup> .....	<sup>r</sup> 3,775	3,250
	As reported on Census Quarterly Form M35H <sup>1</sup> .....	<sup>r</sup> 3,605	2,368
	Dust collection and other air purification equipment:		
35642 53	Electrostatic precipitation equipment.....	21,754	66,814
35642 55	Other dust collection and other air purification equipment.....	59,054	
35640 00	Blowers and fans, not specified by kind.....	12,097	12,199

<sup>r</sup>Revised.

<sup>1</sup>For these products, data were also collected on quarterly Form M35H, "Fans and Blowers." In lieu of asking for detailed statistics on these products in the Census of Manufactures, respondents were asked to report only value of shipments for classes of products for which separate figures had previously been collected on the quarterly form. In most cases, the value figures reported in the Census of Manufactures for each class of products agreed closely with the corresponding figures reported in the quarterly survey. However, there were some differences between the Census figures and the quarterly survey figures. These variations were due primarily to the following reasons:

- Use of different reporting periods (calendar year vs. fiscal year).
- Use of different bases for reporting value (company sales vs. factory production).
- Use of estimates in reporting data on the annual survey, whereas Census of Manufactures figures generally represent more exact shipments figures.

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC65(P)-35E-4



INDUSTRY SERIES

preliminary  
report

## Industrial patterns

SIC Code 3565

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Industrial Patterns Industry shipped products valued at \$141 million, an increase of 43 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 18 percent from 1958 to a total of 9.9 thousand employees in 1963. Value added by manufacture amounted to \$113 million in 1963, an increase of 44 percent from 1958.

The Industrial Patterns Industry includes establishments engaged primarily in the manufacture of industrial patterns.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE INDUSTRIAL PATTERNS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3565)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	1,209	106	9,914	75,605	8,685	17,710	64,891	112,591	29,167	140,696	3,699
1958 <sup>3</sup> .....	1,174	96	8,870	54,746	7,683	13,950	45,370	78,108	20,726	98,343	3,214

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees is as follows: Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. Production workers, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Industrial Patterns Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Industrial Patterns Industry amounted to \$141 million. Of this total, \$6 million were products primary to other industries; and \$7 million were receipts for miscellaneous activities. The industry shipments of primary products represented 96 percent of the total manufactured product

shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$160 million of industrial patterns were shipped by all producers of these products. Of this total, \$128 million, or 80 percent, were shipped by plants classified in Industry 3565, Industrial Patterns, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 74.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

## 1963 CENSUS OF MANUFACTURES

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Table 2.—GENERAL STATISTICS FOR THE INDUSTRIAL PATTERNS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3565)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,209	106	9,914	75,605	8,685	17,710	64,891	112,591	29,167	140,696	3,699	8,870	78,108
New England.....	99	7	602	4,305	503	1,026	3,440	5,832	1,458	7,230	(1)	516	4,132
Middle Atlantic.....	234	12	1,476	8,905	1,294	2,517	7,748	14,412	3,634	17,985	(1)	1,608	12,502
Pennsylvania....	96	6	646	3,753	584	1,137	3,455	6,038	1,402	7,370	(1)	791	5,717
North Central.....	649	77	6,628	54,252	5,834	12,035	46,653	80,130	19,879	99,144	1,944	5,768	51,979
Indiana.....	45	6	449	3,658	386	757	3,057	5,107	1,658	6,749	(1)	363	3,415
Illinois.....	118	10	944	6,756	831	1,603	5,961	10,391	2,956	13,274	(1)	836	7,783
Michigan.....	187	36	3,009	27,732	2,654	5,835	23,787	40,727	8,709	48,893	955	2,342	22,269
Missouri.....	27	4	271	1,844	245	469	1,604	2,815	917	3,679	(1)	197	1,999
South.....	79	3	456	2,671	393	790	2,317	4,429	1,359	5,736	(1)	360	3,014
West.....	148	7	752	5,472	661	1,342	4,733	7,788	2,837	10,601	1,066	618	6,481

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF INDUSTRIAL PATTERNS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Industrial Patterns Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of total shipments including interplant transfers (\$1,000)	
		1963	1958
3565- --	Industrial patterns, total <sup>1</sup> .....	159,731	121,279
35650 11	Foundry patterns (wood, metal, etc.).....	105,461	94,225
35650 98	All other industrial patterns (wood, metal, etc.) (except shoe patterns)....	28,042	8,798
35650 00	Industrial patterns, not specified by kind.....	26,228	18,256

<sup>1</sup>Excludes captive production of industrial patterns.

**U.S. DEPARTMENT OF COMMERCE**  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35E-5



## INDUSTRY SERIES

preliminary  
report

### Power transmission equipment

SIC Code 3566

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Power Transmission Equipment Industry shipped products valued at \$851 million, an increase of 35 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 9 percent from 1958 and 4 percent from 1962 to a total of 46 thousand employees in 1963. Value added by manufacture amounted to \$536 million in 1963, an increase of 39 percent from 1958 and 8 percent from 1962.

The Power Transmission Equipment Industry includes establishments engaged primarily in the manufacture of plain bearings, variable speed changers, industrial high speed drives, fixed ratio speed reducers, gearmotor reducer elements, unmounted gears, pinions and racks, and other mechanical power transmission equipment, but excluding ball and roller bearings.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.--GENERAL STATISTICS FOR THE POWER TRANSMISSION EQUIPMENT INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3566)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	530	271	45,513	295,136	33,472	69,016	197,323	536,150	326,348	851,443	24,679	(X)
1962.....	(NA)	(NA)	43,642	281,744	31,393	64,632	182,756	494,926	300,869	787,631	(32,026)	6
1961.....	(NA)	(NA)	40,042	244,846	28,768	57,754	157,287	429,021	252,271	682,644	17,225	5
1960.....	(NA)	(NA)	41,829	249,780	30,324	61,371	161,757	431,082	257,050	691,915	23,021	5
1959.....	(NA)	(NA)	44,186	255,613	32,248	64,551	168,433	470,903	283,326	739,948	21,908	1
1958.....	470	236	41,782	226,101	29,762	57,537	143,812	384,372	230,817	630,303	26,842	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further explanation of the sampling estimate.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees is as follows: Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. Production workers are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

### VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Power Transmission Equipment Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products,

etc. The total value of shipments and other receipts of establishments classified in the Power Transmission Equipment Industry amounted to \$851 million. Of this total, \$116 million were products primary to other industries; and \$61 million were receipts for miscellaneous activities. The industry shipments of primary products represented 85 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 83 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$848 million of power transmission equipment were shipped by all producers of these products. Of this total, \$674 million, or 80 percent, were shipped by plants classified in Industry 3566, Power Transmission Equipment, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1953 was 79.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the



## 1963 CENSUS OF MANUFACTURES

3

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5

years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE POWER TRANSMISSION EQUIPMENT INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3566)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	530	271	45,513	295,136	33,472	69,016	177,323	536,150	326,346	851,443	24,679	41,782	363,289
New England.....	49	26	4,692	28,218	3,564	7,333	19,723	54,287	27,702	79,864	1,736	4,035	37,233
Massachusetts....	30	15	3,392	20,291	2,538	5,112	14,086	39,167	19,691	58,356	951	2,863	28,019
Connecticut.....	13	8	951	5,490	735	1,589	3,800	11,872	5,014	15,979	(1)	1,122	8,866
Middle Atlantic...	102	54	9,298	58,160	6,556	13,541	37,388	99,032	65,997	163,835	3,817	10,247	59,439
New York.....	47	20	2,651	17,040	1,810	3,858	10,289	32,065	16,712	48,787	960	2,656	21,267
New Jersey.....	22	10	1,253	7,707	894	1,761	4,983	12,799	8,041	20,612	(1)	1,549	14,030
Pennsylvania....	33	24	5,394	33,413	3,852	7,922	22,116	54,168	41,244	94,436	2,365	6,042	45,225
East North Central	218	126	24,552	165,304	18,371	37,510	112,187	304,303	171,094	469,390	13,697	21,576	212,415
Ohio.....	50	35	4,186	26,743	3,172	6,717	18,444	50,405	30,751	80,044	2,176	3,849	37,629
Indiana.....	23	16	8,123	54,684	6,281	12,689	39,134	100,635	51,362	150,325	4,435	5,835	54,775
Illinois.....	77	45	6,037	39,274	4,505	9,066	26,273	71,521	46,191	116,626	2,465	5,789	56,748
Michigan.....	41	15	1,833	12,250	1,364	2,764	8,271	22,961	14,071	36,755	1,187	2,380	23,316
Wisconsin.....	27	15	4,373	32,353	3,049	6,274	20,065	58,781	28,719	85,640	3,434	3,723	39,947
West North Central	40	20	1,695	9,905	1,317	2,677	7,053	18,290	15,330	33,134	(1)	1,098	9,498
Minnesota.....	15	8	578	3,516	464	943	2,577	5,851	4,390	10,303	(1)	471	4,387
Missouri.....	16	7	541	3,475	428	854	2,479	5,957	5,596	11,330	(1)	305	3,105
South.....	42	19	2,955	17,572	2,068	4,537	10,628	34,071	30,094	63,347	2,721	2,999	25,071
Texas.....	15	6	751	3,925	541	1,179	2,540	7,973	5,905	13,594	(1)	706	4,828
Mountain.....	5	2	256	1,665	225	493	1,374	3,796	2,654	6,128	(1)	126	1,030
Pacific.....	74	24	2,065	14,312	1,371	2,925	8,970	22,371	13,477	35,745	1,944	1,701	18,603

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.--QUANTITY AND VALUE OF POWER TRANSMISSION EQUIPMENT SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 and 1958

(Includes quantity and value of these products reported not only by establishments classified in the Power Transmission Equipment Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of shipments")

Product code	Product	Total shipments including interplant transfers		
		1963		1958 value <sup>1</sup> (\$1,000)
		Quantity (number of units)	Value (\$1,000)	
3566- --	Mechanical power transmission equipment, except ball and roller bearings, total.....	(X)	847,533	622,741
35661 --	Plain bearings.....	(X)	87,949	67,047
35661 15	Plain bearings and bushings, unmounted, machined, excluding carbon and graphite, all types, except automotive.....	(X)	77,360	59,646
35661 51	Mounted bearings, plain.....	(X)	10,169	4,521
35661 00	Plain bearings, not specified by kind.....	(X)	420	2,880
35662 --	Speed changers, industrial high speed drives, and gears.....	(X)	327,595	234,151
	Gears, assembled and unassembled, speed reducers and increasers, mechanical power transmissions, except marine, automobile, truck, bus and aircraft (excludes aircraft, related engine and power take-off gears):			
35662 11	Variable speed changers.....	79,447	17,138	17,901
35662 21	Industrial high speed drives, fixed rates (pitch line velocity 4,000 feet per minute).....	(NA)	12,123	18,871
	Speed reducers, fixed rates, enclosed (except gear motors):			
	Wormgear speed reducers (except gear motors and shaft mounted speed reducers):			
35662 23	Above 3 inch center distance.....	(NA)	17,922	24,716
35662 24	3 inch center distance and below.....	161,813	12,045	
35662 26	Shaft mounted speed reducers (excludes shaft mounted gearmotors but includes shaft mounted wormgear reducers).....	87,328	15,485	27,280
	Parallel, concentric shaft and level gear speed reducers:			
35662 27	Above 15 inch low speed centers.....	8,200	16,912	
35662 28	15 inch low speed centers and below.....	(NA)	17,228	
	Gearmotor reducer elements, including shaft mounted gearmotors:			
35662 34	Under 1/8 horsepower.....	(NA)	215,732	28,237
35662 36	1/8 horsepower to but not including 3/4 horsepower.....	236,848	214,955	214,105
35662 37	3/4 horsepower to and including 5 horsepower.....	129,239	218,785	218,831
35662 39	Over 5 horsepower.....	77,543	216,792	28,946
	Gears, pinions and racks, unmounted:			
35662 41	Fine pitch (20.00 diametral pitch and higher).....	(X)	32,041	27,166
35662 49	Other than fine pitch (19.99 diametral pitch and less) excluding aircraft and related engine and power take-off gears but including railway type pinions, and racks.....	(X)	109,468	47,191
35662 00	Speed changers, gears and industrial high speed drives, not specified by kind.....	(X)	10,969	20,907
35663 --	Other mechanical power-transmission equipment.....	(X)	419,121	310,418
35663 11	Friction type clutches.....	(NA)	25,473	26,281
35663 13	Hydraulic type clutches including hydraulic couplings.....	(NA)	9,697	14,489
	Flexible couplings (1 inch nominal bore and over) (except hydraulic):			
35663 21	Gear type.....	68,883	10,285	22,553
35663 22	Other than gear type.....	542,544	14,581	
35663 24	Flexible couplings (less than 1 inch nominal bore) (except hydraulic).....	498,635	2,176	
35663 25	Universal joints.....	3,204,420	29,242	26,590
35663 31	Chains for sprocket drives.....	(X)	98,922	81,622
35663 41	Sprockets.....	(X)	29,019	22,308
35663 51	Pulleys.....	(NA)	17,563	7,787
	Shaftes:			
35663 61	Single drive.....	(NA)	5,562	4,289
35663 65	Multiple drive.....	(NA)	15,252	9,456
35663 87	Railroad car journal bearings.....	(NA)	8,694	10,856
35663 91	Marine gear transmissions (less than 600 horsepower) (includes reversing and speed changing gear drives).....	(X)	11,153	77,301
35663 98	Other mechanical power-transmission equipment (except aircraft automobile, truck, and bus).....	(X)	133,079	
35663 00	Other mechanical power-transmission equipment, not specified by kind.....	(X)	8,423	6,886
35660 00	Mechanical power-transmission equipment, including bearings, not specified by kind.....	(X)	12,868	11,125

(NA) Not available. (X) Not applicable.

<sup>1</sup>No quantity data available for 1958.<sup>2</sup>Represents the value of gearmotor reducer elements only. Does not include the value of electric motors shipped as part of gearmotor reducer elements.

CPO 884-100

USCOMM-DC

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-35E-6



preliminary  
report

INDUSTRY SERIES

## Industrial furnaces and ovens

SIC Code 3567

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Industrial Furnaces and Ovens Industry shipped products valued at \$300 million, an increase of 46 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 15 percent from 1958 to a total of 12 thousand employees in 1963. Value added by manufacture amounted to \$146 million in 1963, an increase of 52 percent from 1958.

The Industrial Furnaces and Ovens Industry includes establishments engaged primarily in the manufacture of industrial process furnaces, ovens induction and dielectric heating equipment and related devices.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE INDUSTRIAL FURNACES AND OVENS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3567)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	236	92	11,859	81,183	6,631	13,640	37,205	146,442	154,784	300,114	4,231
1958 <sup>3</sup> .....	201	89	10,288	57,394	5,774	11,671	26,859	96,450	101,814	204,835	2,853

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available for 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Industrial Furnaces and Ovens Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Industrial Furnaces and Ovens Industry amounted to \$300 million. Of this total, \$40 million were products primary to other industries; and \$48 million were receipts for miscellaneous activities. The industry shipments of primary products represented 84 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 85 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$248 million of industrial furnaces and ovens were shipped by all producers of these products. Of this total, \$212 million, or 85 percent, were shipped by plants classified in Industry 3567, Industrial Furnaces and Ovens, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 83.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which



show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these re-

ports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE INDUSTRIAL FURNACES AND OVENS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3567)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expendi- tures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	236	92	11,859	81,183	6,631	13,640	37,205	146,442	154,784	300,114	4,231	10,288	96,450
New England.....	26	11	924	5,893	515	1,084	2,797	9,686	8,659	18,268	(1)	978	7,399
Massachusetts....	17	7	504	3,264	326	668	1,833	5,656	4,630	10,157	(1)	707	5,284
Middle Atlantic...	65	26	4,204	28,422	2,419	4,876	13,010	50,683	46,803	95,601	1,312	4,022	31,104
New York.....	21	8	784	5,338	505	1,095	2,863	8,103	5,223	13,200	(1)	651	6,570
New Jersey.....	23	8	1,256	7,367	884	1,659	4,694	13,501	15,854	27,379	(1)	1,230	8,200
Pennsylvania....	21	10	2,164	15,717	1,030	2,122	5,453	29,079	25,726	55,022	806	2,141	16,334
East North Central	83	39	5,410	38,028	2,829	5,895	16,361	71,898	87,336	160,058	2,133	4,298	49,112
Ohio.....	26	10	1,902	14,984	816	1,725	5,048	23,699	31,323	54,587	1,061	1,501	20,229
Illinois.....	21	14	1,401	8,852	804	1,604	4,139	16,507	12,413	29,018	(1)	1,096	10,457
West North Central	10	3	374	2,540	243	504	1,332	4,764	3,695	8,451	(1)	525	4,863
Minnesota.....	5	2	261	1,728	160	339	965	3,045	3,122	6,158	(1)	341	2,676
South and West....	52	13	947	6,300	625	1,281	3,705	9,411	8,291	17,736	(1)	465	4,972
California.....	31	9	619	4,238	393	778	2,467	6,248	5,708	11,849	(1)	305	2,689

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than 500 thousand.



# 1963 CENSUS OF MANUFACTURES

MC63(P)-35F-1



preliminary  
report

## INDUSTRY SERIES

### Computing and related machines

SIC Code 3571

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Computing and Related Machines Industry had total shipments valued at \$2,045 million, an increase of 85 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 23 percent from 1958 but a decrease of 1 percent from 1962 to a total of 99 thousand employees in 1963. Value added by manufacture amounted to \$1,127 million in 1963, an increase of 95 percent from 1958 and 10 percent from 1962.

The Computing and Related Machines Industry includes establishments engaged primarily in the manufacture of computing machines including electronic, accounting machines, and cash registers.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE COMPUTING AND RELATED MACHINES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3571)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	248	139	99,306	748,400	59,784	121,310	374,245	1,126,568	938,483	2,044,796	92,754	(X)
1962 <sup>3</sup> .....	(NA)	(NA)	100,549	722,357	59,519	118,109	364,645	1,025,776	841,338	1,833,241	87,830	3
1961 <sup>3</sup> .....	(NA)	(NA)	98,261	677,751	60,720	120,280	365,431	915,619	850,876	1,676,748	93,147	2
1960 <sup>3</sup> .....	(NA)	(NA)	95,050	638,796	60,433	120,306	353,748	822,012	791,137	1,555,715	69,754	2
1959 <sup>3</sup> .....	(NA)	(NA)	78,154	488,028	50,147	98,406	275,080	722,538	619,401	1,301,719	38,958	1
1958 <sup>3</sup> .....	136	71	80,364	473,455	50,523	98,497	269,013	579,103	528,065	1,104,194	61,494	(X)
1954 <sup>3</sup> .....	84	51	56,692	275,809	45,014	88,484	200,953	405,414	202,217	614,265	31,571	(X)
1947 <sup>3</sup> .....	51	29	45,611	152,678	40,467	85,445	127,569	231,207	62,262	293,469	22,295	(X)
1939 <sup>3</sup> .....	38	(NA)	(NA)	(NA)	16,517	(NA)	25,798	71,929	10,400	82,329	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

<sup>4</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that the 1954 and earlier figures for this industry are not strictly comparable with those for 1958 and later years. The 1954 and earlier figures are on the old SIC definition of the industry. The changes resulting from the revision to the SIC are not considered significant.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Computing and Related Machines Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Computing and Related Machines Industry amounted to \$2,045 million. Of this total, \$152 million were products primary to other industries; and \$139 million were receipts for miscellaneous activities. The industry shipments of primary products represented 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 94 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,863 million of computing and related machines were shipped by all producers of these products. Of this total, \$1,754 million, or 94 percent, were shipped by plants classified in Industry 3571, Computing and Related Machines, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 91.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.

Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809.

For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE COMPUTING AND RELATED MACHINES INDUSTRY BY GEOGRAPHIC AREAS: 1963 and 1958  
(SIC code 3571)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)	All employ- ees, number	Value added by manufac- ture (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	248	139	99,306	748,400	59,784	121,310	374,245	1,126,568	938,483	2,044,796	92,754	80,864	579,103
New England.....	27	16	6,026	45,415	2,763	6,107	13,253	58,591	39,832	94,112	2,596	2,791	17,215
Massachusetts...	21	13	5,582	43,378	2,388	5,380	11,745	53,364	38,675	89,000	2,307	1,318	8,631
Middle Atlantic...	73	36	34,520	270,692	18,509	38,412	119,994	327,582	443,453	772,504	41,246	35,517	193,238
New York.....	39	20	27,591	224,938	14,022	29,170	95,476	244,193	358,532	599,540	28,916	30,752	162,427
North Central....	51	29	38,209	269,194	27,897	55,491	181,437	500,176	275,268	760,799	31,143	31,071	280,206
South.....	24	18	4,006	21,487	2,765	5,536	12,228	67,122	43,958	110,860	1,086	1,192	16,939
West.....	73	40	16,545	141,612	7,850	15,764	47,333	173,097	135,972	306,521	16,683	10,293	71,505
California.....	63	35	13,714	103,728	7,011	14,191	43,214	147,147	102,620	250,072	14,135	9,373	68,832

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)



Table 3.--QUANTITY AND VALUE OF COMPUTING AND RELATED MACHINES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Computing and Related Machines Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3571- --	Computing and related machines, total.....	(X)	1,862,672	(X)	1,038,802
35711 --	Electronic data processing machines, and associated equipment, except typewriters:				
	As reported in the census of manufactures <sup>1</sup> .....	(X)	982,546	(X)	324,299
	As reported on Census Form MA-35R, total <sup>1</sup> .....	(X)	966,251	(X)	319,057
	Digital: <sup>2</sup>				
35711 01	General purpose <sup>3</sup> .....	7,951	841,198	3,180	
35711 02	All other.....	(NA)	73,874	(NA)	297,635
35711 03, 04	Analog <sup>2</sup> <sup>3</sup> .....	877	51,179	343	21,422
35712 --	Computing and accounting machines, including cash registers, total.....	(X)	872,187	(X)	708,681
	Products included in the census of manufactures and on Census Annual Form MA-35R:				
35712 12	As reported in the census of manufactures <sup>1</sup> .....	(X)	804,757	(X)	642,353
35712 01	As reported on Census Form MA-35R, total <sup>1</sup> .....	(X)	799,370	(X)	646,278
35712 11, 12	Accounting and bookkeeping machines <sup>4</sup> .....	(X)	293,928	40,373	103,861
	Punched card systems and cash registers <sup>5</sup> .....			(X)	194,398
35712 21, 22	Adding machines:				
35712 23	10 Keyboard (hand and electric).....	242,511	27,577	210,241	30,224
35712 24	Full keyboard hand.....	34,715	2,819	45,854	3,935
	Full keyboard electric.....	51,149	12,125	62,972	10,648
35712 32	Calculating machines:				
35712 31, 33, 34, 35	Rotary electric calculating machines.....	56,305	31,828	63,549	33,491
	Other (including key-driven electric, rotary hand, key-driven hand, and printing calculators).....	63,086	21,272	35,419	14,709
35712 41	Coin and currency handling machines <sup>6</sup> .....	17,404	5,777	(X)	6,211
35712 61, 62, 63, 64	Coded (stored) media data processing machines, other than punched card, sold separately (including accounting, bookkeeping and billing machines with or without cash registers, key operated; adding machines, calculating machines; and coded (stored) media data processing machines, n.e.c.....	30,182	56,051	12,451	26,673
35712 75	Parts and attachments shipped by establishments manufacturing complete office, computing, and accounting machines.....	(X)	318,183	(X)	176,193
35712 80, 95	Rebuilt computing and accounting machines; rebuilt cash registers; and other computing machines and calculating devices, n.e.c.....	(X)	29,810	(X)	45,835
35712 96, 97	Parts and attachments shipped by establishments not manufacturing complete office, computing, and accounting machines; and other computing and related machines not included on Census Annual Form MA-35R <sup>7</sup> .....	(X)	67,430	(X)	66,328
35710 00	Computing and related machines, not specified by kind.....	(X)	7,939	(X)	5,822

n.e.c. Not elsewhere classified. (NA) Not available. (X) Not applicable. <sup>R</sup> Revised.

<sup>1</sup>For these products, data were also collected on annual Form MA-35R, "Office, Computing and Accounting Machines." In lieu of asking for detailed statistics on these products in the census of manufactures, respondents were asked to report only value of shipments for specified classes of products for which separate figures had previously been collected on the annual form. In most cases, the value figures reported in the census of manufactures for each class of products agreed closely with the corresponding figures reported in the annual survey. However, there were some differences between the census figures and the annual survey figures. These variations were due primarily to the following reasons:

- Use of different reporting periods (calendar year vs. fiscal year.)
- Use of different bases for reporting value (company sales vs. factory production.)
- Use of estimates in reporting data on the annual survey, whereas census of manufactures figures generally represent more exact shipments figures.

<sup>2</sup>Figures include in some cases leased machines as well as machines sold outright. For leased machines the value reported in most instances represents the value placed on such equipment for tax, insurance, or similar purposes.

<sup>3</sup>Represents the number of complete systems.

<sup>4</sup>Includes billing machines with accounting registers.

<sup>5</sup>The number of cash registers shipped during 1963 and 1958 totaled 87,606 and 81,021, respectively.

<sup>6</sup>Includes manual change makers, coin counting and sorting, currency counting, and payroll denominating machines.

<sup>7</sup>Computing and related machines not included on Census Annual Form MA-35R consist primarily of automatic voting booths, electronic toll collecting equipment, and pari-mutual computing devices for racetracks.

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35F-2



## INDUSTRY SERIES

### Typewriters

SIC Code 3572

## preliminary report

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Typewriters Industry had total shipments valued at \$316 million, an increase of 33 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 9 percent from 1958 but a 1 percent increase over 1962 to a total of 18 thousand employees in 1963. Value added by manufacture amounted to \$243 million in 1963, an increase of 44 percent from 1958 and 17 percent from 1962.

The Typewriters Industry includes establishments engaged primarily in the manufacture of typewriters and parts.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE TYPEWRITERS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3572)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	21	16	18,074	103,083	13,982	27,150	71,207	242,890	79,738	315,894	9,596	(X)
1962.....	(NA)	(NA)	17,798	96,697	14,049	27,549	69,308	206,883	79,737	290,685	10,073	3
1961 <sup>2</sup> .....	(NA)	(NA)	18,540	93,788	14,848	28,677	68,096	195,834	75,412	270,535	8,309	2
1960 <sup>2</sup> .....	(NA)	(NA)	19,102	92,965	15,266	29,665	68,064	201,186	75,527	282,971	10,307	2
1959 <sup>2</sup> .....	(NA)	(NA)	19,692	93,593	16,125	31,320	71,586	188,658	71,763	265,358	7,395	1
1958.....	18	13	19,779	84,467	16,310	29,748	64,612	168,877	67,691	238,173	9,880	(X)
1954 <sup>3</sup> .....	18	14	18,435	67,399	16,699	32,589	60,075	136,953	44,722	178,799	2,789	(X)
1947 <sup>3</sup> .....	28	(NA)	26,604	73,177	23,838	49,684	63,509	121,385	32,539	153,924	(NA)	(X)
1939 <sup>3</sup> .....	18	(NA)	(NA)	(NA)	16,195	(NA)	19,214	29,096	10,830	39,926	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Typewriters Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Typewriters Industry amounted to \$316 million. Of this total, \$46 million were products primary to other industries; and \$8 million were receipts for miscellaneous activities. The industry shipments of primary products represented 85 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 82 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$265 million of typewriters and parts were shipped by all producers of these products. Of this total, \$262 million, or 99 percent, were shipped by plants classified in Industry 3572, Typewriters, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 99.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in



## 1963 CENSUS OF MANUFACTURING

3

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted

every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE TYPEWRITERS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3572)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture  (\$1,000)	Cost of materials  (\$1,000)	Value of shipments  (\$1,000)	Capital expend- itures, new  (\$1,000)	All employ- ees, number	Value added by manufac- ture  (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	21	16	18,074	103,083	13,982	27,150	71,207	242,890	79,738	315,894	9,596	19,779	168,877
New York.....	7	5	6,975	34,809	5,794	11,329	27,415	86,338	26,648	110,746	1,801	9,237	81,097
All other States..	14	11	11,099	68,274	8,188	15,821	43,792	156,552	53,090	205,148	7,795	10,542	87,780

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—QUANTITY AND VALUE OF TYPEWRITERS AND PARTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Typewriters Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Number of units)	Value (\$1,000)	Quantity (Number of units)	Value (\$1,000)
3572- --	Typewriters and parts, total.....	(X)	265,298	(X)	188,556
	Total, excluding parts and attachments produced by other than complete machine manufacturers:				
	As reported in the Censuses of Manufactures <sup>1</sup> .....	(X)	263,781	(X)	2187,450
	As reported on Census Annual Form MA35R <sup>1</sup> .....	(X)	260,390	(X)	2183,612
	Standard (nonportable):				
35720 01	Electric.....	447,671	123,942	199,613	55,388
35720 02	Manual.....	355,626	49,560	354,042	48,497
35720 05-11	Standard (portable), and specialized typewriters <sup>4</sup> .....	503,262	70,631	669,853	61,011
35720 15	Parts and attachments for typewriters.....	(X)	16,257	(X)	18,716
35720 98	Parts and attachments for typewriters produced by other than complete machine manufacturers.....	(X)	1,517	(X)	1,106

(X) Not applicable.

<sup>1</sup>For these products data on typewriters and parts produced by complete machine manufacturers were also collected on Form MA35R. In lieu of asking for detailed statistics on these products in the Census of Manufactures, respondents were requested to report value of shipments for this group of products for which separate data had previously been collected.

<sup>2</sup>Includes rebuilt typewriters for which separate data cannot be shown without disclosing figures of individual companies.

<sup>3</sup>Data on typewriters are also published monthly in Current Industrial Reports Series M35C "Typewriters".

<sup>4</sup>Includes coded (stored) media typewriters, continuous form handling machines, billing machines without accounting registers, office composing machines, stencil cutting typewriters, and reproduction typewriters.



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# 1963 CENSUS OF MANUFACTURES

MC63(P)-35F-3



INDUSTRY SERIES

preliminary  
report

Scales and balances

SIC Code 3576

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Scales and Balances Industry shipped products valued at \$98 million, an increase of 26 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 2 percent from 1958 to a total of 5,5 thousand employees in 1963. Value added by manufacture amounted to \$64 million in 1963, an increase of 31 percent from 1958.

The Scales and Balances Industry includes establishments engaged primarily in the manufacture of weighing and force measuring machines and devices of all types, except those regarded as scientific apparatus for laboratory and experimental work.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE SCALES AND BALANCES INDUSTRY IN THE UNITED STATES: FOR SELECTED YEARS.

(SIC code 3576)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new* (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	85	35	5,477	35,052	3,724	7,678	19,919	63,904	35,298	98,491	1,146
1958.....	72	32	5,347	26,574	3,515	6,886	14,974	49,125	27,844	78,335	1,406
1954 <sup>3</sup> .....	78	35	5,381	21,276	4,074	7,636	14,193	45,535	20,135	64,182	1,103
1947 <sup>3</sup> .....	75	32	6,526	18,849	4,385	10,041	12,847	34,766	19,776	54,542	1,457
1939 <sup>3</sup> .....	56	(NA)	3,757	5,566	2,839	(NA)	3,306	9,363	4,987	14,350	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels from 1958 to 1963.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Scales and Balances Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Scales and Balances Industry amounted to \$98 million. Of this total, \$7 million were products primary to other industries; and \$4 million were receipts for miscellaneous activities. The industry shipments of primary products represented 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$90 million of scales and balances were shipped by all producers of these products. Of this total, \$87 million, or 97 percent, were shipped by plants classified in Industry 3576, Scales and Balances while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 97.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE SCALES AND BALANCES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3576)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	85	35	5,477	35,052	3,724	7,678	19,919	63,904	35,298	98,491	1,146	5,347	49,125
New York.....	6	3	740	3,973	531	1,153	2,629	6,448	5,113	11,657	( <sup>1</sup> )	794	6,303
Ohio.....	9	4	1,690	10,838	960	1,962	5,420	20,270	11,046	30,990	574	1,423	14,431
Illinois.....	14	10	1,078	6,044	732	1,434	3,251	13,042	6,840	19,657	( <sup>1</sup> )	1,108	10,520
All other states.	56	18	1,969	14,197	1,501	3,129	8,619	24,144	12,299	28,187	( <sup>1</sup> )	2,022	17,871

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF SCALES AND BALANCES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Scales and Balances Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3576- --	Scales and balances, except laboratory.....	(X)	89,979	(X)	70,992
35760 11	Railroad track and motor truck scales.....	3,040	12,146	(NA)	6,477
	Industrial scales:				
35760 21	Bench and portable.....	(X)	6,319	(X)	6,988
35760 23	Floor scales (including built-in and dormant).....	(X)	3,801	(X)	2,961
35760 25	Predetermined weighing and check weighing scales, all types (except automatic bulk material weighers, fillers, and batching proportioners).....	(X)	8,693	(X)	11,695
35760 27	Automatic bulk material weighers, predetermined weight type, for weighing, filling, batching and proportioning.....	(X)	6,024		
35760 29	Miscellaneous industrial scales (including special purpose, crane, suspension, tank, hopper, force measuring devices, and conveyor scales-weigh and feed for bulk materials).....	(X)	10,242	(X)	7,244
	Retail and commercial scales:				
35760 31	Computing.....	(NA)	12,122	29,000	11,627
35760 35	Miscellaneous (including noncomputing counter, cotton beams and steel yards, egg-grading scales, and hanging scales for retail use).....	(X)	2,487	(X)	1,329
	Household and person weighing scales:				
35760 41	Bathroom.....	3,470,000	11,002	2,936,000	10,884
35760 43	Person-weighing scales, coin-operated and free weighing, except baby scales.....	32,000	1,130	24,000	1,293
35760 48	Miscellaneous (kitchen, baby scales, etc.).....	(X)	1,185	(X)	1,429
35760 51	Mailing and parcel post scales.....	326,000	2,891	126,000	2,025
35760 82	Accessories and attachments (sold separately).....	(X)	2,599	(X)	4,881
35760 84	Parts for scales and balances (sold for assembly elsewhere, repair, service, etc.).....	(X)	5,947		
35760 00	Scales and balances, except laboratory, not specified by kind.....	(X)	3,391	(X)	2,159

(X) Not applicable.

(NA) Not available.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
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OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-35F-4



INDUSTRY SERIES

preliminary  
report

Office machines, n. e. c.

SIC Code 3579

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Office Machines, N.E.C., Industry had total shipments valued at \$355 million, an increase of 34 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 9 percent from 1958 to a total of 17 thousand employees in 1963. Value added by manufacture amounted to \$226 million in 1963, an increase of 30 percent from 1958.

The Office Machines, N.E.C., Industry includes establishments engaged primarily in the manufacture of office machines and devices, not elsewhere classified. Establishments primarily engaged in manufacturing computing machines and cash registers are classified in Industry 3571, typewriters in Industry 3572, and photocopy and microfilm equipment in Industry 3861.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE OFFICE MACHINES, N.E.C., INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3579)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	162	76	17,025	104,263	11,655	23,074	63,439	225,844	130,921	354,640	16,280
1958 <sup>3</sup> .....	120	72	15,625	82,984	10,600	21,227	50,108	173,424	90,596	264,513	11,817

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Office Machines, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Office Machines, N.E.C., Industry amounted to \$355 million. Of this total, \$58 million were products primary to other industries; and \$75 million were receipts for miscellaneous activities. The industry shipments of primary products represented 79 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 84 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$280 million of office machines, n.e.c., were shipped by all producers of these products. Of this total, \$222 million, or 79 percent, were shipped by plants classified in Industry 3579, Office Machines, N.E.C., Industry while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 84.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary

reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE OFFICE MACHINES, N.E.C., INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3579)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	162	76	17,025	104,263	11,655	23,074	63,439	225,844	130,921	354,640	16,280	15,625	173,424
New England.....	20	10	4,270	27,757	3,007	6,187	17,956	59,469	23,669	83,730	2,714	4,372	48,258
Middle Atlantic....	48	18	3,187	16,986	2,497	4,996	11,726	29,420	18,268	47,455	912	3,113	24,194
New York.....	29	11	1,866	9,475	1,494	3,053	6,743	17,456	11,479	28,861	563	1,674	14,507
North Central.....	53	28	8,220	52,815	5,135	9,801	29,589	125,972	78,864	202,562	11,602	7,395	94,349
South and West....	41	20	1,348	6,705	1,016	2,090	4,168	10,983	10,120	20,893	1,052	745	6,623

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report in this industry.)

Table 3.—QUANTITY AND VALUE OF OFFICE MACHINES, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Office Machines, N.E.C., industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3579- --	Office machines, n.e.c., total.....	(X)	279,815	(X)	213,861
	Products included in the census of manufactures and on Census Annual Form MA-35R:				
35790 10	As reported in the census of manufactures <sup>1</sup> .....	(X)	251,489	(X)	185,883
	As reported on Census Annual Form MA-35R, total <sup>1</sup> .....	(X)	250,534	(X)	184,452
	Duplicating machines:				
	Spirit machines:				
35790 11	Hand.....	21,756	2,721	21,118	2,696
35790 12	Electric.....	14,062	3,997	6,667	2,593
35790 16	Offset.....	11,815	23,405	9,806	15,572
35790 13, 14	Stencil machines (hand and electric).....	51,595	5,744	59,162	5,508
35790 15, 17	Gelatin and other type machines, including ribbon and ink.....			11,248	1,669
35790 19	Parts and attachments for duplicating machines shipped by establishments manufacturing complete duplicating machines.....	(X)	11,014	(X)	5,939
	Office machines, n.e.c.:				
35790 27	Autographic registers.....	103,906	1,768	101,376	1,389
35790 29	Dictating machines <sup>2</sup> .....	130,147	31,081	91,419	20,546
35790 31	Check handling machines <sup>3</sup> .....	132,061	24,497	110,478	13,118
35790 33	Time recording and time stamp machines, including watchmen's clocks...	80,975	9,111	(NA)	11,257
35790 21, 22, 23, 24, 25	Other office, computing, and accounting machines, n.e.c. <sup>4</sup> .....	(X)	104,379	(X)	88,030
35790 35	Parts and attachments for office machines, n.e.c., except duplicating machine parts, shipped by establishments manufacturing complete office, computing, and accounting machines.....	(X)	32,817	(X)	16,135
35790 91	Parts and attachments shipped by establishments not manufacturing complete office machines, n.e.c.....	(X)	19,621	(X)	18,570
35790 00	Office machines, n.e.c., not specified by kind.....	(X)	8,705	(X)	9,408

n.e.c. Not elsewhere classified. (NA) Not available. (X) Not applicable. <sup>r</sup>Revised.<sup>1</sup>For these products, data were also collected in the Census annual commodity survey program. In lieu of asking for detailed statistics on these products in the Census of Manufactures, respondents were asked to report only value of shipments for specified products or classes of products for which separate figures had previously been collected on the annual form.<sup>2</sup>Includes dictating, transcribing and recording machines (disc, wire, and tape) designed as office machines (conference recording, combination dictating and telephone recording, etc.) but excludes wire and tape recorders.<sup>3</sup>Includes cancelling, cutting, dating, endorsing, numbering, protecting, signing, sorting, and writing machines.<sup>4</sup>Includes addressing and plate embossing machines; postage meters and postal permit mailing machines; shorthand writing machines; rebuilt office, computing, and accounting machines, n.e.c.; staplers; tape dispensers; envelope opening and sealing machines; label gummers; and price marking machines, etc.U.S. DEPARTMENT OF COMMERCE  
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OFFICIAL BUSINESS



# 1963 CENSUS OF MANUFACTURES

MC33(P)-35G-1



INDUSTRY SERIES

preliminary  
report

## Automatic vending machines

SIC Code 3581

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Automatic Vending Machines Industry shipped products valued at \$235 million, an increase of 65 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 45 percent from 1958 to a total of 11 thousand employees in 1963. Value added by manufacture amounted to \$120 million in 1963, an increase of 85 percent from 1958.

The Automatic Vending Machines Industry includes establishments engaged primarily in the manufacture of automatic merchandising units; also referred to as vending machines (excluding music, amusement, or gaming machines), and coin operated mechanisms for such machines.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE AUTOMATIC VENDING MACHINES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3581)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>2</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	156	67	11,480	63,627	8,423	16,592	39,857	119,743	115,514	234,777	3,200
1958.....	121	53	7,894	37,049	5,557	10,846	21,945	64,694	76,600	141,635	2,798
1954 <sup>3</sup> .....	76	(NA)	5,233	21,570	3,925	7,821	13,880	37,248	46,702	83,957	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

<sup>4</sup>Represents establishments specializing in producing automatic vending machines but excludes establishments producing coin-operated mechanisms for such machines. The former establishments accounted for an estimated 80-90 percent of the total value of shipments of all establishments primarily engaged in producing automatic vending machines and coin operated mechanisms for such machines.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



## ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

## EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

## VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

## VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Automatic Vending Machines Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Automatic Vending Machines Industry amounted to \$235 million. Of this total, \$44 million were products primary to other industries; and \$6 million were receipts for miscellaneous activities. The industry shipments of primary products represented 80 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 92 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$206 million of automatic vending machines were shipped by all producers of these products. Of this total, \$184 million, or 89 percent, were shipped by plants classified in Industry 3581, Automatic Vending Machines, while the remainder was shipped by plants classified in other industries. In 1958 the comparable percentage was 92.

## GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965.



through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE AUTOMATIC VENDING MACHINES INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3581)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	156	67	11,480	63,627	8,423	16,592	39,857	119,743	115,514	234,777	3,200	7,894	64,694
Northeast and North Central....	105	51	9,370	54,103	6,813	13,412	33,487	100,184	95,775	196,201	2,781	6,209	47,977
Illinois.....	23	12	1,665	8,515	1,395	2,721	6,151	14,888	15,207	29,869	641	1,230	8,497
Missouri.....	5	4	2,442	14,752	1,455	2,709	6,956	26,202	26,797	52,791	602	1,791	15,343
South.....	27	8	1,333	5,755	1,003	1,943	3,687	10,927	12,121	22,921	( <sup>1</sup> )	893	7,643
West.....	24	8	777	3,769	607	1,237	2,683	8,632	7,618	15,655	( <sup>1</sup> )	792	9,074

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.--QUANTITY AND VALUE OF AUTOMATIC VENDING MACHINES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Automatic Vending Machine Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3581- --	Automatic vending machines and parts, total.....	(X)	205,679	(X)	130,850
35811 --	Automatic vending machines (complete units):				
	As reported in the census of manufactures, total.....	(X)	<sup>1</sup> 163,494	(X)	<sup>1</sup> 110,548
	As reported on Census Annual Form MA-35U, total.....	(X)	<sup>1</sup> 162,815	(X)	<sup>1</sup> 109,410
	Vending machines for beverages:				
	Coffee: <sup>2</sup>				
35810 02	Instand or liquid concentrates.....	6,954	2,783	13,093	10,260
35810 03	Fresh brew (batch).....	4,133	4,991		
35810 04	Fresh brew (single cup).....	16,226	16,873		
35810 05	Canned beverages (refrigerated).....	3,240	2,025	( <sup>3</sup> )	( <sup>3</sup> )
	Soft drink:				
35810 07	Bottle.....	131,296	50,572	<sup>1</sup> 110,561	36,011
35810 08	Cup (post-mix).....	13,055	19,153	<sup>1</sup> 13,054	<sup>1</sup> 5,538
35810 11	Cup (pre-mix).....	5,088	4,467	8,146	4,971
35810 01, 06, 19	Other vending machines for beverages <sup>4</sup> .....	5,898	4,398	<sup>3</sup> 7,883	<sup>3</sup> 5,315
	Vending machines for confections and foods:				
35810 21	Bulk.....	113,295	1,812	77,423	1,414
35810 22	Candy bar.....	41,711	13,721	26,271	7,077
35810 23	Hot canned foods and soups.....	2,573	1,322	31,099	6,418
35810 25, 26	Multipurpose (refrigerated and nonrefrigerated).....	4,982	6,659		
35810 24, 27, 29	Other vending machines for confections and foods <sup>5</sup> .....	17,057	6,166		
	All other vending machines:				
35810 31	Cigarette.....	62,793	21,474	98,989	27,927
35810 33	Ice.....	854	2,793	609	1,541
35810 35	Postage stamp.....	13,382	706	11,105	505
35810 39	All other vending machines except for beverages, confections and foods <sup>6</sup> .....	149,043	2,900	83,706	2,433
35812 --	Coin operated mechanisms and parts for automatic vending machines, total.....	(X)	32,757	(X)	<sup>7</sup> 20,302
35812 51	Coin-operated mechanisms (for sale separately).....	1,120,997	19,129	800,419	15,624
35812 69	Parts for automatic vending machines (except coin-operated mecha- nisms).....	(X)	13,628	(X)	4,678
35810 00	Automatic vending machines and parts, not specified by kind.....	(X)	9,428		

(X) Not applicable. <sup>2</sup> Revised.

<sup>1</sup> For these products, data were also collected in the Census annual commodity survey program. In lieu of asking for detailed statistics on these products in the Census of Manufactures, respondents were asked to report only value of shipments for specified products or classes of products for which separate figures had previously been collected on the annual form. In most cases, the value figures reported in the Census of Manufactures for each product or class of products agreed closely with the corresponding figures reported in the annual survey. However, there were some differences between the Census figures and the annual survey figures amounting generally to less than 1 percent at the industry level. These variations were due primarily to the following reasons:

- Use of different reporting periods (calendar year vs. fiscal year.)
- Use of different bases for reporting value (company sales vs. factory production.)
- Use of estimates in reporting data on the annual survey whereas Census of Manufactures figures generally represent more exact shipments figures.

<sup>2</sup> These products are primarily coffee vending machines though they may also vend hot chocolate and/or hot soup from the same cabinet.

<sup>3</sup> In 1958 data for canned beverages are included with other vending machines for beverages.

<sup>4</sup> Includes packaged milk (indoor and outdoor); milk (bulk or cup); beverage combination (hot and cold); hot beverages such as hot chocolate and/or hot soup (except canned soup) not sold in a combination machine with coffee; and package dry ingredients for mixing into beverages.

<sup>5</sup> Includes vending machines for such commodities as apples; cookies, crackers, and biscuits; popcorn, pastry; ice cream; and package chewing gum.

<sup>6</sup> Includes vending machines for such products as cosmetics and toiletries, novelties, detergents, newspapers, and stationery supplies.

<sup>7</sup> Includes automatic vending machines and parts, not specified by kind.

U.S. DEPARTMENT OF COMMERCE  
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POSTAGE AND FEES PAID  
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OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-35G-2



## INDUSTRY SERIES

preliminary  
report

### Commercial laundry equipment

SIC Code 3582

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Commercial Laundry Equipment Industry shipped products valued at \$137 million, an increase of 14 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry remained virtually the same as in 1958 while registering an increase of 3 percent from 1962 to a total of 6.5 thousand employees in 1963. Value added by manufacture amounted to \$71 million in 1963, an increase of 8 percent from 1958 and 10 percent from 1962.

The Commercial Laundry Equipment Industry includes establishments engaged primarily in the manufacture of laundry and dry cleaning equipment and pressing machines for commercial and industrial use. Establishments primarily engaged in manufacturing household laundry equipment are classified in Industry 3633. Although the SIC classifies coin-operated household washing machines in Industry 3582, data for these machines are included in the 1963 Census of Manufactures in Industry 3633, as in 1958.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957

Table 1.--GENERAL STATISTICS FOR THE COMMERCIAL LAUNDRY EQUIPMENT INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3582)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	115	58	6,542	37,929	4,661	9,605	23,460	70,834	64,925	136,747	2,490	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	6,329	36,128	4,327	9,192	21,567	64,616	64,205	124,698	1,266	3
1961 <sup>2</sup> .....	(NA)	(NA)	5,879	32,613	4,148	8,433	20,408	61,548	55,931	119,881	2,705	2
1960 <sup>2</sup> .....	(NA)	(NA)	6,937	36,898	4,741	9,304	22,111	74,697	63,315	137,342	1,308	2
1959 <sup>2</sup> .....	(NA)	(NA)	6,839	36,416	4,752	9,652	22,231	71,034	66,428	137,981	1,504	1
1958.....	119	47	6,560	33,047	4,544	9,218	20,183	65,580	54,058	119,499	2,024	(X)
1954 <sup>3</sup> .....	104	46	6,543	28,630	4,659	9,509	18,243	56,644	46,189	103,747	1,062	(X)
1947 <sup>3</sup> .....	127	67	9,093	27,435	6,888	14,790	19,015	54,347	40,626	94,361	(NA)	(X)
1939 <sup>3</sup> .....	88	(NA)	(NA)	(NA)	2,783	(NA)	3,588	13,358	9,026	22,384	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of

products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Commercial Laundry Equipment Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Commercial Laundry Equipment Industry amounted to \$137 million. Of this total, \$12 million were products primary to other industries; and \$9 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 90 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$130 million of commercial laundry equipment were shipped by all producers of these products. Of this total, \$116 million, or 89 percent, were shipped by plants classified in Industry 3582, Commercial Laundry Equipment, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 95.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary



reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE COMMERCIAL LAUNDRY EQUIPMENT INDUSTRY, BY GEOGRAPHIC AREAS: 1963 and 1958

(SIC code 3582)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	115	58	6,542	37,929	4,661	9,605	23,460	70,834	64,925	136,747	2,490	6,560	65,580
New England.....	12	6	473	2,327	279	578	1,161	3,794	3,167	6,895	(1)	443	3,747
Middle Atlantic...	25	14	1,271	7,191	988	2,011	4,937	16,022	15,088	30,841	(1)	2,105	20,040
New York.....	15	9	1,010	5,653	784	1,605	3,965	12,704	11,268	23,727	(1)	1,730	17,287
East North Central	33	18	2,431	15,482	1,693	3,570	9,258	26,807	23,549	50,940	1,636	2,480	25,494
Illinois.....	17	9	1,338	9,106	844	1,840	4,843	15,308	13,976	29,501	(D)	985	9,972
West North Central	9	5	860	4,840	614	1,159	3,052	5,130	8,279	14,546	(1)	440	2,837
South.....	23	12	1,042	5,568	783	1,635	3,519	12,718	10,735	23,172	(1)	808	10,673
Texas.....	7	4	254	1,261	167	354	674	3,105	3,295	6,289	(1)	276	3,456
West.....	13	3	465	2,521	304	652	1,533	6,363	4,107	10,353	(1)	284	2,789

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF COMMERCIAL LAUNDRY EQUIPMENT SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Commercial Laundry Equipment Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3582- --	Commercial laundry, dry cleaning, and pressing machines, total.....	(X)	129,739	(X)	106,590
	Commercial laundry equipment and laundry presses:				
35820 21	Washers only.....	5,653	8,750	<sup>r</sup> 6,056	11,262
35820 22	Extractors only.....	6,576	5,556	4,329	5,604
35820 23	Washer-extractor combinations.....	7,380	14,456	513	1,690
35820 25	Drying tumblers.....	49,787	20,948	41,818	17,756
35820 26	Ironers, flatwork.....	1,694	5,743	1,448	4,723
35820 27	Presses, laundry.....	15,848	18,679	12,605	16,851
35820 28	Other commercial laundry equipment.....	(X)	7,710		
35820 31	Parts, attachments, and accessories <sup>1</sup> .....	(X)	14,155	(X)	13,405
	Dry cleaning equipment and clothing presses:				
	Dry cleaning units:				
35820 32	Coin-operated.....	5,187	10,184		
35820 33	Other than coin-operated.....	1,560	3,926	1,951	8,776
35820 52	Washer-extractors.....	470	2,469	<sup>r</sup> 542	<sup>r</sup> 2,812
35820 81	Other dry cleaning equipment, including tailor-type presses, washers, extractors and reclaiming units.....	(X)	9,168		
35820 91	Parts, attachments, and accessories <sup>1</sup> .....	(X)	2,666	(X)	<sup>r</sup> 15,074
35820 00	Commercial laundry, dry cleaning, and pressing machines, not specified by kind.....	(X)	5,329	(X)	8,637

(X) Not applicable. <sup>r</sup>Revised.

<sup>1</sup>Excludes coin-operated mechanisms.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-356-3



INDUSTRY SERIES

preliminary  
report

## Refrigeration machinery

SIC Code 3585

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Refrigeration Machinery Industry had total shipments valued at \$1,928 million, an increase of 34 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 6 percent from 1958 and 15 percent from 1962 to a total of 72 thousand employees in 1963. Value added by manufacture amounted to \$912 million in 1963, an increase of 52 percent from 1958 and 35 percent from 1962.

The Refrigeration Machinery Industry includes establishments engaged primarily in the manufacture of equipment and systems utilizing the basic refrigeration cycle, including mechanical and absorption refrigerators for commercial and industrial use; refrigeration machinery; and complete air conditioning units for domestic, commercial, and industrial use. Establishments primarily engaged in manufacturing soda fountains and beer dispensing equipment are classified in this industry, and those primarily engaged in manufacturing household refrigerators and home and farm freezers in Industry 3632.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing

Table 1.—GENERAL STATISTICS FOR THE REFRIGERATION MACHINERY INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3585)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	696	347	71,995	430,560	50,368	100,718	266,655	911,799	<sup>3</sup> 1,045,479	<sup>3</sup> 1,927,713	33,341	(X)
1962.....	(NA)	(NA)	62,533	366,967	44,730	90,249	225,401	676,544	<sup>3</sup> 940,285	<sup>3</sup> 1,610,516	12,433	5
1961.....	(NA)	(NA)	62,795	349,836	44,182	86,583	212,601	608,116	<sup>3</sup> 894,931	<sup>3</sup> 1,501,918	37,880	4
1960.....	(NA)	(NA)	65,846	361,180	45,973	90,981	217,590	674,304	<sup>3</sup> 935,403	<sup>3</sup> 1,549,413	31,801	3
1959.....	(NA)	(NA)	69,350	377,760	47,898	95,522	224,181	733,591	<sup>3</sup> 925,565	<sup>3</sup> 1,641,520	26,110	2
1958.....	625	278	67,715	342,169	46,210	90,352	204,934	598,032	<sup>3</sup> 806,411	<sup>3</sup> 1,441,082	23,166	(X)

(NA) Not available. (X) Not applicable. <sup>2</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>The value of shipments and cost of materials for this industry includes extensive duplication arising from shipments between establishments in the same industry classification. For further explanation see text "Value of Shipments."

<sup>4</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1958-1963 are not comparable with those for earlier years.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The total cost of materials and total value of shipments of the Refrigeration Machinery Industry include extensive duplication resulting from the intra-industry shipments of certain products by some establishments for use as materials by others. For this reason, the "primary product specialization ratio," a measure of the extent to which plants classified in an industry "specialize" in making the products regarded as primary to the industry, has not been computed precisely. The ratio, however, is between 85 and 100. Since this duplication is also included in the value of shipments shown in table 3, the coverage ratio for this industry has not been computed.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

## 1963 CENSUS OF MANUFACTURES

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1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years

and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE REFRIGERATION MACHINERY INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3585)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials <sup>1</sup>	Value of shipments <sup>1</sup>	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	696	347	71,995	430,560	50,368	100,718	266,655	911,799	1,045,479	1,927,713	33,341	67,715	598,032
New England.....	31	16	1,755	9,960	1,205	2,438	6,053	30,008	20,078	49,015	1,395	4,220	44,409
Middle Atlantic....	163	79	20,366	128,233	13,210	26,382	74,105	259,688	281,706	533,036	12,580	19,303	176,733
New York.....	72	34	8,810	59,155	5,560	11,166	34,110	123,838	161,335	286,129	4,321	9,757	109,358
New Jersey.....	36	20	3,050	18,685	1,941	3,835	9,910	32,906	38,963	72,209	1,875	3,799	24,598
Pennsylvania.....	55	25	8,506	50,393	5,709	11,381	30,085	102,944	81,408	174,698	6,384	5,747	42,777
East North Central	156	87	24,368	148,889	17,480	34,702	95,880	269,291	387,235	651,901	8,725	22,831	203,563
Ohio.....	34	19	6,842	41,508	5,026	10,171	27,340	77,598	112,724	190,343	2,519	5,757	42,004
Indiana.....	15	10	4,144	22,922	3,070	5,911	15,842	38,083	49,767	85,204	1,146	2,377	22,812
Illinois.....	50	27	2,108	13,295	1,568	3,332	8,807	17,006	25,550	42,641	683	1,998	15,735
Michigan.....	38	21	6,873	44,120	5,273	10,341	30,325	84,809	152,932	236,867	2,648	8,375	79,540
Wisconsin.....	19	10	4,401	27,044	2,543	4,947	13,566	51,795	46,262	96,846	1,729	4,324	43,472
West North Central	55	32	7,312	43,776	4,960	10,154	26,206	136,686	90,188	219,795	2,734	8,268	66,395
Minnesota.....	18	10	2,717	17,309	1,916	4,109	10,115	50,873	39,760	89,259	1,571	2,744	24,971
Missouri.....	23	15	3,478	19,495	2,183	4,307	11,390	31,245	33,370	64,167	612	3,783	33,016
South Atlantic....	55	27	3,484	18,868	2,570	5,291	12,114	41,986	48,132	89,039	1,630	2,473	18,667
Florida.....	23	6	325	1,639	226	459	983	3,065	3,822	6,813	( <sup>2</sup> )	202	1,375
East South Central	24	13	3,123	17,442	2,480	5,069	12,239	45,639	58,135	101,107	2,266	1,871	16,042
West South Central	82	44	6,196	30,791	4,688	9,426	19,310	75,327	94,513	163,319	2,590	4,120	35,683
Texas.....	58	33	4,879	24,538	3,694	7,402	15,329	63,634	77,351	134,280	1,909	3,844	33,675
Mountain.....	17	8	1,579	8,802	1,174	2,131	6,213	18,604	18,504	36,760	599	1,065	7,313
Pacific.....	113	41	3,812	23,799	2,601	5,125	14,535	34,570	46,988	83,741	861	3,564	29,227
California.....	92	35	3,349	20,869	2,322	4,603	12,844	30,634	42,340	75,005	740	3,245	26,211

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>See table-1 footnote 3.  
<sup>2</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF REFRIGERATION MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES; 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Refrigeration Machinery Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments and interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3585- --	Refrigeration machinery, total.....	(X)	<sup>1</sup> 2,099,510	(X)	<sup>1</sup> 1,425,710
35851 --	Heat transfer equipment, total.....	(X)	<sup>2</sup> 1,148,826	(X)	634,576
35851 15	Room air-conditioners:				
	As reported in the census of manufactures <sup>3</sup> .....	(X)	310,720	(X)	(NA)
	As reported on Census Form MA35M <sup>2</sup> .....	(X)	296,044	(X)	257,466
35851 20	Heat transfer equipment (evaporative condensers, unit coolers, etc.), centrifugal liquid chilling packages, unitary air-conditioners, and other air-conditioning and refrigeration equipment:				
	As reported in the census of manufactures <sup>3</sup> .....	(X)	<sup>2</sup> 838,106	(X)	(NA)
	As reported on Census Form MA35M <sup>2</sup> .....	(X)	<sup>2</sup> 483,354	(X)	385,482
35853 --	Commercial refrigerators and related equipment, total.....	(X)	278,790	(X)	<sup>r</sup> 240,409
35853 12	Refrigerated enclosures, including self-contained units, remote units with or without condensing units, and cabinets. Cabinets shipped to other manufacturers of commercial refrigeration equipment are shown under code 3585798:				
	Sectional coolers or cooling rooms of the prefabricated (factory produced) type, including walk-in, roll-in, and combination cooler display types.....	36,374	33,745	17,565	18,104
	Reach-in refrigerators (except dairy refrigerators and wall boxes, and florists' cabinets).....	26,328	17,478	27,121	15,530
35853 17	Dairy refrigerators and wall boxes.....	10,654	7,258	6,930	4,273
35853 22	Display cases for meat, dairy products, produce, and other perishables, operated at normal temperatures; i.e., not intended for frozen foods, ice cream, etc.:				
	Closed.....	16,232	8,693	11,863	7,211
	Open, self-service:				
35853 24	Single-duty.....	27,486	17,644	19,973	12,104
35853 26	Double-duty.....	6,451	4,915	17,188	13,497
35853 28	Multiple deck.....	18,015	15,258	12,865	11,000
35853 32	Display cases and cabinets for frozen foods, ice cream and other foods operated at low temperatures (except coin-operated):				
	Frozen food display cases, open, self-service.....	49,714	29,643	45,596	33,091
	Frozen food cabinets, low temperature reach-ins, etc., closed types	16,560	8,239	9,668	5,734
35853 36	Ice cream counter freezers (include frozen custard machines).....	3,789	4,294	5,055	7,691
35853 38	Ice cream dispensing and hardening cabinets.....	23,202	7,162	<sup>r</sup> 31,119	<sup>r</sup> 11,620
35853 43	Mechanical drinking water coolers:				
	As reported in the census of manufactures <sup>3</sup> .....	(X)	28,610	(X)	22,030
	As reported on Census Form MA35M <sup>2</sup> .....	195,613	26,509	139,276	20,390
35853 52	Mechanical beverage-cooling and dispensing equipment (except coin-operated):				
	Bottled beverage coolers, dry and wet types.....	38,620	11,253	39,920	11,331
	Bulk beverage dispensers (include malt dispensers and pre-cooler cabinets).....	41,887	11,680	39,053	7,363
35853 72	Farm and dairy milk coolers:				
	Immersion type (mechanically refrigerated).....	2,836	1,003	13,662	5,210
	Bulk tank storage coolers.....	9,372	12,295	15,882	25,098
35853 79	Other commercial refrigerators (include florists' refrigerators, dough retarders, egg refrigerators, environmental control equipment, laboratory and industrial refrigerators, mortuary refrigerators, etc.).....	(X)	26,816	(X)	10,447
35853 00	Unitary commercial refrigeration equipment, not specified by kind....	(X)	6,295	(X)	19,075
35854 --	Compressors and compressor units, all refrigerants, total.....	(X)	268,505	(X)	<sup>r</sup> 213,864
35854 14	Compressors and motor compressors for household refrigerators.....	937,817	20,060	<sup>r</sup> 1,557,515	<sup>r</sup> 40,365
35854 20	Compressors and motor compressors, refrigeration (except for household refrigerators):				
	As reported in the census of manufactures <sup>3</sup> .....	(X)	243,445	(X)	173,499
	As reported on Census Form MA35M <sup>2</sup> .....	(X)	244,900	(X)	171,952

See footnotes at end of table.



Table 3.—QUANTITY AND VALUE OF REFRIGERATION MACHINERY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Total shipments and interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
35855 --	Condensing units, all refrigerants, total.....	(X)	73,538	(X)	<sup>r</sup> 70,307
35855 14	Condensing units for household refrigerators (air-cooled hermetic type)	141,174	5,562	<sup>r</sup> 100,600	<sup>r</sup> 5,893
35855 20	Condensing units (except for household refrigerators):				
	As reported in the census of manufactures <sup>3</sup> .....	(X)	67,976	(X)	64,414
	As reported on Census Form MA358P.....	(X)	468,031	(X)	62,104
35857 --	Other refrigeration and air-conditioning equipment, including soda fountain and beer dispensing equipment, total.....	(X)	286,125	(X)	<sup>5</sup> 235,112
35857 11	Soda-fountain equipment (cooler box, fountainette, and similar equipment).....	(X)	26,375	(X)	15,708
35857 51	Beer dispensing equipment.....	(X)	3,785	(X)	6,877
35857 94	Evaporative air coolers.....	429,208	28,914	711,667	39,004
35857 96	Other refrigeration machinery and air-conditioning equipment.....	(X)	77,363		
35857 97	Complete refrigeration systems shipped to other manufacturers for incorporation into a cabinet, vending machine, or household refrigerator				
35857 98	Other components and accessories for air-conditioning and refrigeration equipment.....	(X)	129,494	(X)	<sup>5</sup> 158,181
35857 00	Other refrigeration and air-conditioning equipment, not specified by kind.....	(X)	20,194	(X)	15,342
35850 00	Refrigeration and air-conditioning equipment, not specified by kind.....	(X)	43,726	(X)	31,442

(NA) Not available. (X) Not applicable. <sup>r</sup>Revised.<sup>1</sup>The total value of shipments of refrigeration machinery includes extensive duplication resulting from the use of products of certain establishments as materials by others within the same industry.<sup>2</sup>Includes data on automobile air conditioners. In 1958, these units were included in class of product 35857.<sup>3</sup>For these products, data were also collected in the census annual commodity survey program. In lieu of asking for detailed statistics on these products in the census of manufactures, respondents were asked to report only value of shipments for specified products or classes of products for which separate figures had previously been collected on the annual form. In most cases, the value figures reported in the census of manufactures for each product or class of products agreed closely with the corresponding figures reported in the annual survey. However, there were some differences between the census figures and the annual survey figures amounting generally to not more than 5 percent at the class of product level. These variations were due primarily to the following reasons:

- Use of different reporting periods (calendar year vs. fiscal year.)
- Use of different bases for reporting value (company sales vs. factory production.)
- Use of estimates in reporting data on the annual survey whereas census of manufactures figures generally represent more exact shipments figures.
- Better coverage in the census of manufactures program. Coverage in the annual surveys will be supplemented by adding respondents not currently in the survey but making the specified product according to their census of manufactures report.

See Current Industrial Reports Series M35M "Air-Conditioning and Refrigeration Equipment" for more detailed product data.

<sup>4</sup>Data for 1963 as published in the Current Industrial Reports Series for selected products should be revised as follows:

Current Industrial Report Product Code	Shipments	
	Quantity (number of units)	Value (\$1,000)
3585112	}	13,691
3585113		6,468
3585114		7,588
3585115		4,003
3585117		12,320
3585135		10,206
3585177,78		3,251
3585528		7,791
3585529		5,545
3585530		19,755
3585531		43,315
3585532		6,418
3585533		88,279
3585534,35		6,078
3585537		2,791
3585547		84,583
3585549		45,222
3585551		4,245
3585552		39,647
		4,490
		11,692
		4,639
		9,378
		5,813
		5,764
		622
		3,147
		437
		4,671
		724
		2,426
		555

<sup>5</sup>Includes data on automobile air conditioners. For 1963, these units are included with census product code 3585120.



# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume 1, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume 1, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census Washington, D.C., 20233.



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# 1963 CENSUS OF MANUFACTURES

MC63(P)-356-4



## INDUSTRY SERIES

**preliminary  
report**

### Measuring and dispensing pumps

SIC Code 3586

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Measuring and Dispensing Pumps Industry shipped products valued at \$159 million, an increase of 34 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 9 percent from 1958 and 7 percent from 1962 to a total of 6.8 thousand employees in 1963. Value added by manufacture amounted to \$92 million in 1963, an increase of 42 percent from 1958 and 12 percent from 1962.

The Measuring and Dispensing Pumps Industry includes establishments engaged primarily in the manufacture of measuring and dispensing pumps commonly used in service and filling stations for dispensing gasoline, oil, and grease, including grease guns.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE MEASURING AND DISPENSING PUMPS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3586)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	43	27	6,768	41,732	4,499	8,913	23,186	91,713	71,213	159,487	2,605	(X)
1962.....	(NA)	(NA)	6,316	38,326	3,969	7,823	19,857	81,728	66,656	143,747	2,691	3
1961.....	(NA)	(NA)	5,638	33,643	3,569	6,938	17,241	72,046	54,607	125,899	2,416	2
1960.....	(NA)	(NA)	6,025	34,928	3,909	7,667	18,600	71,637	54,907	124,345	2,975	2
1959.....	(NA)	(NA)	6,569	38,437	4,303	8,503	20,390	79,243	65,989	141,205	1,611	1
1958.....	32	20	6,201	32,852	3,747	7,102	16,680	64,689	53,812	119,045	2,238	(X)
1954 <sup>3</sup> .....	31	19	7,438	34,201	5,199	10,454	20,899	59,722	50,784	111,628	1,750	(X)
1947 <sup>3</sup> .....	52	29	12,083	36,972	8,884	17,090	24,174	66,223	60,439	125,052	(NA)	(X)
1939 <sup>3</sup> .....	38	(NA)	7,395	11,953	5,054	(NA)	6,751	25,267	19,019	44,286	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Measuring and Dispensing Pumps Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Measuring and Dispensing Pumps Industry amounted to \$159 million. Of this total, \$37 million were products primary to other industries; and \$20 million were receipts for miscellaneous activities. The industry shipments of primary products represented 73 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 75 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$121 million of measuring and dispensing pumps were shipped by all producers of these products. Of this total, \$102 million, or 85 percent, were shipped by plants classified in Industry 3586, Measuring and Dispensing Pumps, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 89.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965.



through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE MEASURING AND DISPENSING PUMPS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3586)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)
United States, total.....	43	27	6,768	41,732	4,499	8,913	23,186	91,713	71,213	159,487	2,605	6,201	64,689
Middle Atlantic...	9	5	951	5,867	558	1,014	2,572	13,612	8,384	19,811	(1)	430	3,803
East North Central	13	9	2,385	15,223	1,607	3,209	8,434	33,495	26,620	59,874	1,263	2,711	32,327
West North Central	6	5	1,353	7,542	1,068	2,209	5,257	22,707	11,608	33,713	(1)	1,451	13,295
All other divisions.....	15	8	2,079	13,100	1,266	2,481	6,923	21,899	24,601	46,089	665	1,609	15,264

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF MEASURING AND DISPENSING PUMPS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Measuring and Dispensing Pumps Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3586- --	Measuring and dispensing pumps, total.....	(X)	120,901	(X)	88,217
	Gasoline dispensing pumps (filling station type):				
	Computing:				
35860 11	Single units.....	85,774	42,126	83,118	39,484
35860 12	Dual units <sup>1</sup> .....	11,895	9,708	6,074	5,317
35860 13	Noncomputing <sup>2</sup> .....	(X)	( <sup>3</sup> )	11,716	2,911
35860 21	Lubricating-oil outfits, including pump and tank.....	38,110	8,280	27,900	6,387
35860 31	Lubricating-oil pumps, including barrel pumps.....	387,873	8,781	208,954	5,361
35860 41	Grease pumps.....	(X)	8,805	(X)	5,518
35860 51	Grease guns.....	3,181,165	12,846	(NA)	6,338
35860 98	Other measuring and dispensing pumps.....	(X)	29,327	(X)	16,901
35860 00	Measuring and dispensing pumps, not specified by kind.....	(X)	1,028	(X)	-

- Represents zero. (NA) Not available. (X) Not applicable. <sup>T</sup>Revised.

<sup>1</sup>Twin pumps are counted as one unit.

<sup>2</sup>Twin pumps are counted as two units.

<sup>3</sup>For 1963 data on noncomputing gasoline dispensing pumps are included with other measuring and dispensing pumps.

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**OFFICIAL BUSINESS**

# 1963 CENSUS OF MANUFACTURES

MC63(P)-35-G-5



INDUSTRY SERIES

**preliminary  
report**

## Service industry machines, n. e. c.

SIC Code 3589

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Service Industry Machines, N.E.C., Industry had total shipments valued at \$386 million, an increase of 57 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 35 percent from 1958 to a total of 16 thousand employees in 1963. Value added by manufacture amounted to \$197 million in 1963, an increase of 58 percent from 1958.

The Service Industry Machines, N.E.C., Industry includes establishments engaged primarily in the manufacture of machines and equipment, not elsewhere classified, for use in service industries, such as floor sanding machines, industrial vacuum cleaners, scrubbing machines, commercial cooking and food warming equipment, and commercial dish-washing machines.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Industry 3589

Table 1.—GENERAL STATISTICS FOR THE SERVICE INDUSTRIES MACHINES, N.E.C., INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3589)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	503	142	15,746	99,620	9,871	20,149	53,264	197,182	188,227	385,846	5,482
1958 <sup>3</sup> .....	359	125	11,689	63,719	7,746	15,086	35,864	125,156	121,952	245,227	3,217

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





has been amended to include manufacturers of industrial vacuum cleaners. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Service Industry Machines, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Service Industry Machines, N.E.C., Industry amounted to \$386 million. Of this total, \$49 million were products primary to other industries; and \$42 million were receipts for miscellaneous activities. The industry shipments of primary products represented 86 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 86 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$327 million of service industry machines, n.e.c., were shipped by all producers of these products. Of this total, \$295 million, or 90 percent, were shipped by plants classified in Industry 3589, Service Industry Machines, N.E.C. while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 83.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports

will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE SERVICE INDUSTRIES MACHINES, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963

(SIC code 3589)

Geographic area	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
United States, total.....	503	142	15,746	99,620	9,871	20,149	53,264	197,182	188,227	385,846	5,482
New England.....	24	12	1,302	8,654	817	1,655	4,119	17,493	13,457	30,941	(1)
Massachusetts.....	13	8	867	5,854	579	1,196	3,147	11,363	10,312	21,421	(D)
Middle Atlantic.....	122	33	3,290	20,276	2,212	4,511	12,272	38,821	32,026	70,258	753
New York.....	53	9	870	5,617	623	1,312	3,568	11,044	8,247	18,997	(1)
New Jersey.....	35	14	1,479	9,233	1,014	2,068	5,786	15,952	13,516	29,215	(1)
Pennsylvania.....	34	10	941	5,426	575	1,131	2,918	11,825	10,263	22,046	(1)
East North Central.....	158	57	6,499	41,791	3,810	7,813	20,822	83,844	94,251	179,408	2,967
Ohio.....	31	15	1,515	9,545	1,072	2,156	6,049	22,294	24,784	48,590	862
Indiana.....	15	3	312	1,882	239	483	1,287	2,748	2,723	5,401	(1)
Illinois.....	77	34	3,874	24,797	2,057	4,264	11,295	47,168	53,770	101,412	1,507
Michigan.....	14	3	501	4,090	231	469	1,257	8,225	7,801	15,456	(1)
Wisconsin.....	21	2	297	1,477	211	441	934	3,409	5,173	8,549	(1)
West North Central.....	38	15	1,914	11,892	1,150	2,292	5,625	24,514	19,242	43,091	614
Minnesota.....	18	5	871	6,219	409	847	2,207	11,615	10,677	22,069	(1)
South and West.....	161	25	2,741	17,007	1,882	3,878	10,426	32,510	29,251	62,148	861
California.....	76	15	1,440	9,720	1,002	2,042	6,062	18,751	17,260	36,352	593

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.) Figures for 1958 withheld to avoid disclosing figures for individual companies.

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF SERVICE INDUSTRY MACHINES, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Service Industry Machines, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963		1958	
		Total shipments including interplant transfers		Total shipments including interplant transfers	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3589- --	Service industry machines, total.....	(X)	327,391	(X)	222,987
35891 --	Commercial cooking and food warming equipment.....	(X)	107,020	(X)	73,169
	Nonelectric:				
35891 11	Commercial cooking stoves, ranges, ovens, and broilers.....	61,389	21,532	55,555	15,012
35891 29	Other commercial cooking equipment (except electric), including griddles, toasters, deep-fat fryers, coffee urns, pressure cookers-steam, etc.....	(X)	15,738	(X)	9,962
35891 31	Commercial food-warming equipment, including steam tables.....	(X)	5,174	(X)	8,975
	Electric:				
35891 61	Commercial ranges, ovens, and broilers.....	(NA)	12,556	40,915	9,709
35891 63	Commercial electronic stoves and ovens.....				
35891 71	Other commercial cooking equipment, including griddles, toasters, deep fat fryers, coffeemakers, coffee urns.....				
35891 81	Commercial food warming equipment, including hot food server units and steam tables.....	(X)	16,712	(X)	12,532
		(X)	13,289	(X)	9,871
35891 85	Parts and accessories for commercial cooking and food warming equipment.....	(X)	16,201	(X)	<sup>1</sup> 3,306
35891 00	Commercial cooking and food warming equipment, not specified by kind.....	(X)	5,818	(X)	3,802
35892 --	Service industry machines and parts, total.....	(X)	185,494	(X)	137,086
	Water softeners:				
35892 22	Industrial.....	5,306	11,307	4,906	10,283
	Farm, household and commercial:				
35892 24	Manual.....	64,030	3,005	<sup>r</sup> 69,025	<sup>r</sup> 4,859
35892 26	Semi-automatic.....	14,645	1,805	<sup>r</sup> 38,245	<sup>r</sup> 4,957
35892 28	Automatic.....	157,821	21,395	<sup>r</sup> 81,162	<sup>r</sup> 10,862
35892 35	Floor waxing and polishing machines, commercial and industrial types.....	95,468	13,588	100,372	10,439
35892 42	Floor sanding and floor scrubbing machines.....	(X)	7,570	(X)	5,198
35892 71	Dishwashing machines, commercial type.....	18,700	27,845	14,298	19,036
35892 61	Carpet sweepers.....	(X)	67,688	814,582	5,119
35892 91	Other industrial and commercial service machines.....				
35892 93	Parts and accessories for service industry machines.....				
35892 00	Service industry machines and parts not specified by kind.....	(X)	22,670	(X)	46,212
		(X)	8,621	(X)	20,121
35893 --	Commercial and industrial vacuum cleaners, including parts and attachments.....	(X)	18,725	(X)	12,732
35893 11	Portable, including attachments and parts.....	193,215	14,501	95,550	10,345
35893 98	Central system, including parts and attachments for commercial and industrial vacuum cleaners.....	(X)	3,852	(X)	2,387
35893 00	Commercial and industrial vacuum cleaners, including parts and attachments not specified by kind.....	(X)	372	(X)	-
35890 00	Service industry machines, not specified by kind.....	(X)	16,152	(X)	-

- Represents zero. (NA) Not available. (X) Not applicable. <sup>r</sup>Revised.  
<sup>1</sup>Represents parts and accessories for commercial electric cooking equipment.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36A-1



INDUSTRY SERIES

preliminary  
report

## Electric measuring instruments

SIC Code 3611

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Electric Measuring Instruments Industry had total shipments valued at \$745 million, an increase of 11 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 4 percent from 1958 to a total of 45 thousand employees in 1963. Value

added by manufacture amounted to \$503 million in 1963, an increase of 20 percent from 1958.

The Electric Measuring Instruments Industry includes establishments engaged primarily in the manufacture of pocket, portable, panelboard, and graphic recording instruments for measuring electricity, such as voltmeters, ammeters, watt meters, watt-hour meters, demand meters and other meters and indicating instruments. This industry also includes establishments primarily engaged in manufacturing analyzers for testing the electrical characteristics of internal combustion engines, radio apparatus, etc.

Table 1.—GENERAL STATISTICS FOR THE ELECTRIC MEASURING INSTRUMENTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3611)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	557	207	44,881	274,171	30,270	60,355	149,640	502,765	244,117	745,363	19,211
1958.....	492	200	46,923	254,833	31,702	63,646	147,165	419,396	235,188	673,522	19,421
1954 <sup>3</sup> .....	303	143	33,049	145,131	24,223	47,679	90,873	245,388	114,127	368,186	20,926
1947 <sup>3</sup> .....	154	58	20,926	60,661	16,086	32,576	42,326	103,946	49,434	153,380	(NA)
1939 <sup>3</sup> .....	59	(NA)	9,318	15,223	6,976	(NA)	9,881	29,693	12,104	41,797	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

June 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the years 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954, 1958, and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Electric Measuring Instruments Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Electric Measuring Instruments Industry amounted to \$745 million. Of this total, \$106 million were products primary to other industries; and \$61 million were receipts for miscellaneous activities. The industry shipments of primary products represent 85 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 74 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$758 million of electrical measuring instruments were shipped by all producers of these products. Of this total, \$579 million, or 76 percent, were shipped by plants classified in Industry 3611, Electric Measuring Instruments, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 81 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary

## 1963 CENSUS OF MANUFACTURES

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reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE ELECTRIC MEASURING INSTRUMENTS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expendi- tures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	557	207	44,881	274,171	30,270	60,355	149,640	502,765	244,117	745,363	19,211	46,923	419,396
Northeast.....	229	84	14,196	85,128	9,759	19,435	46,734	147,766	71,589	220,431	5,243	19,608	160,720
Massachusetts...	32	9	2,435	17,489	1,335	2,708	7,045	31,020	13,931	45,191	908	5,240	49,541
Connecticut.....	18	7	693	4,022	478	985	2,197	5,499	3,956	9,475	( <sup>1</sup> )	518	4,198
New York.....	77	30	3,552	21,308	2,375	4,777	11,244	30,078	20,165	52,291	1,126	4,060	31,556
Pennsylvania....	28	9	1,024	5,199	779	1,543	3,378	7,715	5,030	12,952	( <sup>1</sup> )	1,068	7,834
East North Central	105	44	9,702	56,287	6,571	12,870	30,894	103,778	54,168	159,405	3,287	10,821	86,499
Ohio.....	34	16	3,003	16,499	2,012	3,930	8,275	29,489	17,509	47,026	744	2,359	17,140
Illinois.....	34	14	4,640	27,247	3,143	6,215	15,935	50,626	26,344	79,086	1,523	4,638	39,032
Wisconsin.....	9	4	516	3,018	322	603	1,263	4,250	1,849	6,354	( <sup>1</sup> )	531	3,694
West North Central	17	6	777	2,593	593	1,147	1,637	4,038	3,311	7,378	( <sup>1</sup> )	470	5,231
South.....	66	20	4,059	21,398	2,814	5,965	12,476	41,524	24,697	66,542	1,625	2,166	22,294
West.....	140	53	16,147	108,765	10,533	20,938	57,899	205,659	90,352	291,607	8,935	13,858	144,652
California.....	119	41	9,177	67,776	6,265	13,068	37,259	131,031	56,548	187,005	3,595	11,354	113,597

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

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Table 3.—VALUE OF ELECTRICAL MEASURING INSTRUMENTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Electric Measuring Instruments Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3611- --	Electrical measuring instruments, total.....	757,739	587,755
	Integrating instruments, electrical:		
36111 10	As reported in the census of manufactures.....	93,567	88,809
	As reported on Census Annual Form MA-38B <sup>1</sup> .....	89,000	(X)
	Equipment for testing electrical, radio, and communication circuits and motors:		
36112 20	As reported in the census of manufactures.....	447,327	341,883
	As reported on Census Annual Form MA-38B <sup>1</sup> .....	423,000	(X)
	Other electrical measuring instruments:		
36113 30	As reported in the census of manufactures.....	203,846	140,053
	As reported on Census Annual Form MA-38B <sup>1</sup> .....	191,000	(X)
36110 00	Electrical measuring instruments, not specified by kind.....	12,999	17,010

(X) Not applicable.

<sup>1</sup>Value shown is preliminary. Detailed product statistics will be published later this year in Current Industrial Reports Series M38B, "Selected Instruments and Related Products."

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36A-2



preliminary  
report

INDUSTRY SERIES

Transformers

SIC Code 3612

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Transformers Industry shipped products valued at \$711 million, an increase of 11 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 5 percent from 1958 and 7 percent from 1962 to a total of 33 thousand employees in 1963. Value added by manufacture amounted to \$374 million in 1963, an increase of 3 percent from 1958 but a decrease of 7 percent from 1962.

The Transformers Industry includes establishments engaged primarily in the manufacture of power, distribution, and specialty transformers. Establishments primarily engaged in manufacturing radio frequency or voice frequency transformers, coils, or chokes are classified in Industry 3679, and resistor welding transformers in Industry 3623.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE TRANSFORMERS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3612)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	174	96	32,770	206,361	23,135	45,873	127,064	374,460	328,998	710,911	12,552	(X)
1962 <sup>3</sup> .....	(NA)	(NA)	35,075	215,228	24,590	49,078	133,946	400,762	345,850	740,359	22,594	3
1961 <sup>2</sup> .....	(NA)	(NA)	34,857	207,363	23,522	46,180	128,146	402,251	303,768	708,099	40,524	2
1960 <sup>2</sup> .....	(NA)	(NA)	36,608	211,851	24,724	48,600	129,214	422,501	308,360	718,264	14,297	2
1959 <sup>2</sup> .....	(NA)	(NA)	35,507	201,687	24,048	47,974	125,904	429,065	296,910	721,572	14,875	1
1958.....	175	82	34,601	186,361	22,578	45,112	108,592	364,212	256,870	642,267	13,816	(X)
1954 <sup>3</sup> .....	164	89	40,956	186,491	29,234	58,414	121,715	394,276	277,814	688,447	22,852	(X)
1947 <sup>3</sup> .....	144	85	36,635	107,978	28,160	58,568	78,525	195,102	162,085	356,968	(NA)	(X)
1939 <sup>3</sup> .....	47	(NA)	(NA)	(NA)	9,260	(NA)	14,064	38,898	32,711	71,609	(NA)	(X)

(NA) Not available. (X) Not applicable. <sup>1</sup>Revised.

<sup>2</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1959 and 1947 and is not available by 4-digit industry for 1954.

<sup>3</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>4</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954 and 1958-1963 are based on employment for the payroll period ended nearest the 15th of March, May, August and November. For 1957 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Transformers Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Transformers Industry amounted to \$711 million. Of this total, \$60 million were products primary to other industries; and \$12 million were receipts for miscellaneous activities. The industry shipments of primary products represent 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 94 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$681 million of transformers were shipped by all producers of these products. Of this total, \$639 million, or 94 percent, were shipped by plants classified in Industry 3612, Transformers, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 93 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE TRANSFORMERS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3612)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	174	96	32,770	206,361	23,135	45,873	127,064	374,460	328,998	710,911	12,552	34,601	364,212
Northeast.....	54	28	16,355	112,945	10,972	20,272	66,810	174,541	140,957	318,397	6,215	18,973	202,533
New York.....	13	7	713	3,338	502	902	1,885	4,130	4,686	9,201	(1)	843	5,587
Pennsylvania....	14	9	8,905	62,706	6,128	12,303	39,074	83,679	79,039	162,971	2,600	9,941	117,950
North Central.....	58	37	11,275	63,525	8,487	16,085	41,747	115,983	110,971	230,634	4,768	11,759	109,416
Ohio.....	7	5	1,084	6,645	851	1,802	4,742	14,255	11,220	25,752	(1)	1,091	16,085
Illinois.....	23	14	4,848	25,377	4,086	7,861	18,917	47,042	47,790	95,438	1,077	4,409	36,744
Wisconsin.....	10	7	1,518	9,680	964	1,826	5,297	15,641	10,037	24,754	697	1,348	13,354
South.....	27	17	3,970	22,859	2,831	5,876	13,791	67,893	63,614	131,689	1,327	3,123	39,098
West.....	35	14	1,170	7,032	845	1,640	4,716	16,043	13,456	30,191	(1)	746	13,165
California.....	30	13	1,126	6,740	816	1,584	4,553	15,090	12,654	28,470	(1)	674	12,226

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF POWER, DISTRIBUTION, AND SPECIALTY TRANSFORMERS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Transformers Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3612- --	Power, distribution, and specialty transformers, total.....	(X)	680,630	(X)	638,307
36121 --	Specialty transformers and fluorescent ballasts, except parts....	(X)	160,672	(X)	130,023
36121 11	Natural-draft dry type transformers, generally known as specialty transformers:				
36121 21	Control, signalling, doorbell, and toy.....	2,800	9,962	870	3,182
36121 31	Luminous tube.....	406	3,909	650	6,727
	Ignition, including oil- and gas-furnace ignition applications but excluding internal combustion engine ignition.....	1,205	6,967	975	5,795
36121 41	Fluorescent lamp ballasts:				
	As reported on census of manufactures.....	38,420	93,322	25,828	69,981
	As reported on Census Form M56C.....	36,091	90,699	22,496	60,207
36121 45	Mercury vapor lamp ballasts.....	(X)	( <sup>2</sup> )	(X)	( <sup>2</sup> )
36121 51	Lighting transformers, including street, airport, and mercury vapor lamp types.....	435	13,449	357	14,046
36121 98	General purpose and miscellaneous application involving voltages of 600 volts and below.....	(X)	32,614	(X)	27,268
36121 00	Specialty transformers, not specified by kind.....	(X)	449	(X)	3,024
Total shipments including interplant transfers					
		1963		1958	
		Quantity (number of units)	Total KVA (1,000)	Quantity (number of units)	Total KVA (1,000)
36122 --	Power and distribution transformers, except parts.....	(X)	(X)	(X)	(X)
36122 06	Up to and including 15 KVA, 15,000 volts and below.....	419,400	4,889	552,130	10,739
36122 08	16 KVA-50 KVA, 15,000 volts and below.....	320,135	9,894	91,976	163,408
36122 12	51 KVA-167 KVA, 15,000 volts and below.....	65,212	6,957	33,337	3,781
36122 14	168 KVA-500 KVA, 15,000 volts and below; and 500 KVA and under with voltages greater than 15,000.....	11,433	3,992	7,281	2,338
36122 16	501 KVA-5,000 (all voltages).....	8,636	12,099	5,319	7,771
36122 17	5,001 KVA-10,000 KVA (all voltages).....	679	5,240	661	5,172
36122 21	Over 10,000 KVA (all voltages):				
36122 23	Two-coil type.....	854	59,438	677	34,210
	Auto transformer type.....		96,845		108,279
36122 00	Power and distribution transformers, not specified by kind.....	(X)	(X)	(X)	(X)
Total shipments including interplant transfers					
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
36123 --	Power regulators, boosters, and reactors, other transformers, and transformer parts.....	(X)	90,304	(X)	80,982
36123 11	Transformers for other applications, including X-ray and radio-liquid filled (all voltages) and dry type above 600 volts.....	(X)	1,622	(X)	7,059
36123 51	Feeder-voltage regulators and boosters.....	(X)	29,323	(X)	25,040
36123 31	Current limiting reactors and special purpose transformers.....	(X)	16,387	(X)	35,793
36123 75	Parts and accessories for power, distribution, and specialty transformers, including replacement interiors.....	(X)	39,908		
36123 82	Tripping transformers (current and potential):				
36123 84	5 KVA and under.....			97,008	8,569
	Over 5 KVA.....	(X)	3,064		
36123 00	Transformer parts and supplies, power regulators, boosters, and reactors, not specified by kind.....			(X)	4,521
36120 00	Transformers, not specified by kind.....	(X)	3,954	(X)	5,576

<sup>1</sup>Revised. (X) Not applicable.<sup>2</sup>See Current Industrial Reports Series M56C, "Fluorescent Lamp Ballasts," for more detailed product data.<sup>3</sup>Included with code 3612198 to avoid disclosing operations of individual companies.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36A-3



INDUSTRY SERIES

preliminary  
report

## Switchgear and switchboards

SIC Code 3613

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Switchgear and Switchboards Industry had total shipments valued at \$1,087 million, an increase of 13 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 2 percent from 1958 but a decrease of 9 percent from 1962 to a total of 54 thousand employees in 1963. Value added by manufacture amounted to \$632 million in 1963, an

increase of 14 percent from 1958 but a decrease of 3 percent from 1962.

The Switchgear and Switchboards Industry includes establishments engaged primarily in the manufacture of switchgear and switchboard apparatus. Important products of this industry include power switches, circuit breakers, power switching equipment, and similar switchgear for general industrial application; switchboards and cubicles, control and metering panels, power fuse mountings, and similar switchboard apparatus and supplies. Establishments primarily engaged in manufacturing industrial controls are classified in Industry 3622, and those manufacturing current-carrying wiring devices in Industry 3643.

Table 1.—GENERAL STATISTICS FOR THE SWITCHGEAR AND SWITCHBOARDS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3613)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	397	213	53,998	338,538	38,025	76,852	204,621	632,475	463,414	1,087,060	18,177	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	59,650	356,347	43,369	84,111	211,967	654,760	458,480	1,108,404	16,618	3
1961 <sup>2</sup> .....	(NA)	(NA)	57,138	336,346	41,099	80,988	197,817	606,624	430,446	1,039,332	15,575	2
1960 <sup>2</sup> .....	(NA)	(NA)	57,427	325,925	41,860	82,869	194,487	636,584	421,957	1,038,760	24,368	2
1959 <sup>2</sup> .....	(NA)	(NA)	57,132	319,349	41,726	82,472	190,224	638,834	429,478	1,047,620	(35,459)	1
1958 <sup>3</sup> .....	402	203	52,871	283,152	36,263	72,769	170,453	555,044	375,977	962,558	17,820	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimates.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that comparable data for prior years are not available.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

#### VALUE ADDED BY MANUFACTURE

For 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic

importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Switchgear and Switchboards Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Switchgear and Switchboards Industry amounted to \$1,087 million. Of this total, \$143 million were products primary to other industries; and \$60 million were receipts for miscellaneous activities. The industry shipments of primary products represent 86 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 80 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,006 million of switchgear and switchboards were shipped by all producers of these products. Of this total, \$884 million, or 88 percent, were shipped by plants classified in Industry 3613, Switchgear and Switchboards, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 90 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.



Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809.

For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE SWITCHGEAR AND SWITCHBOARDS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958  
(SIC code 3613)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	397	213	53,998	338,538	38,025	76,852	204,621	632,475	463,414	1,087,060	18,177	52,453	555,044
New England.....	33	20	5,197	28,163	3,610	6,998	16,165	52,518	42,880	96,067	1,524	5,296	43,316
Connecticut.....	13	8	2,515	14,429	1,689	3,359	8,215	28,541	27,204	56,959	811	2,405	23,356
Middle Atlantic...	106	55	22,576	156,710	15,004	29,821	92,454	270,484	185,145	452,936	8,289	21,753	260,120
New York.....	43	24	2,945	16,939	2,190	4,080	11,042	30,565	26,024	57,178	963	2,291	25,653
New Jersey.....	38	18	5,199	32,093	3,704	7,339	20,520	64,456	31,271	96,612	2,100	4,520	50,206
Pennsylvania.....	25	13	14,432	107,678	9,110	18,402	60,892	175,463	127,850	299,146	5,226	14,942	184,261
East North Central	102	58	12,746	79,225	9,276	18,785	48,925	150,120	97,867	244,841	6,097	13,537	132,269
Ohio.....	19	14	1,958	11,966	1,533	3,124	8,529	33,574	21,676	53,849	780	2,324	20,441
Indiana.....	9	4	1,258	6,984	941	1,804	4,545	10,088	5,222	15,560	( <sup>1</sup> )	1,014	6,988
Illinois.....	45	25	5,665	33,387	4,115	8,492	20,344	64,258	38,794	102,452	3,619	5,852	55,814
Michigan.....	20	9	1,562	10,837	1,152	2,332	6,833	15,280	12,848	27,728	( <sup>1</sup> )	2,873	29,078
Wisconsin.....	9	6	2,303	16,051	1,535	3,033	8,674	26,920	19,327	45,252	1,166	1,474	19,948
West North Central	18	13	3,866	20,683	3,220	7,234	15,197	45,859	24,694	68,003	532	3,448	31,479
South.....	49	26	5,284	26,307	4,087	8,038	16,457	65,915	51,617	117,077	774	3,832	39,815
Texas.....	16	7	518	3,224	362	717	1,751	7,037	12,703	19,753	( <sup>1</sup> )	632	7,269
West.....	89	41	4,329	27,450	2,828	5,976	15,423	47,579	61,211	108,136	961	4,587	48,045
California.....	66	32	3,723	23,676	2,410	5,125	13,263	38,479	50,425	88,363	862	4,207	41,846

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF SWITCHGEAR AND SWITCHBOARD APPARATUS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Switchgear and Switchboards Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3613- --	Switchgear and switchboard apparatus, total.....	1,006,222	891,371
	Switchgear including power switchgear assemblies and other switching and interrupting devices 2,300 volts and over:		
36131 00	As reported in the census of manufactures.....	<sup>r</sup> 434,357	419,932
	As reported on Census Annual Form MA-36A <sup>1</sup> .....	416,000	(X)
	Circuit breakers:		
36132 00	As reported in the census of manufactures.....	210,882	200,990
	As reported on Census Annual Form MA-36A <sup>2</sup> .....	210,353	(X)
	Low voltage panelboards and distribution boards and other switching and interrupting devices 750 volts and under:		
36133 00	As reported in the census of manufactures.....	<sup>r</sup> 302,965	224,223
	As reported on Census Annual Form MA-36A <sup>1</sup> .....	295,000	(X)
	Fuses and fuse equipment under 2,300 volts (except power distribution cutouts):		
36134 00	As reported in the census of manufactures.....	41,935	30,675
	As reported on Census Annual Form MA-36A <sup>2</sup> .....	38,877	(X)
36130 00	Switchgear and switchboard apparatus, not specified by kind.....	16,083	15,551

(X) Not applicable. <sup>r</sup>Revised.

<sup>1</sup>Value shown has been revised based on a reconciliation between the census of manufactures and Current Industrial Reports Series M36A, "Switchgear, Switchboard Apparatus, Relays, and Industrial Controls." Revisions to the detail will be shown in the 1964 M36A release.

<sup>2</sup>See Current Industrial Reports Series M36A, "Switchgear, Switchboard Apparatus, Relays and Industrial Controls," for more detailed product data.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-36A-4



INDUSTRY SERIES

preliminary  
report

## Motors and generators

SIC Code 3621

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Motors and Generators Industry shipped products valued at \$1,705 million, an increase of 22 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 1 percent from both 1958 and 1962 to a total of 94 thousand employees in 1963. Value added by manufacture amounted to \$990 million in 1963, an increase of 22 percent from 1958 and 2 percent from 1962.

The Motors and Generators Industry includes establishments engaged primarily in the manufacture of electric motors (except starting motors) and power generators; motor generator sets; railway motors and control equipment; and motors, generators, and control equipment for gasoline electric and oil electric busses and trucks. Establishments primarily engaged in manufacturing turbo-generators are classified in Industry 3511, and starting motors and battery charging generators for internal combustion engines in Industry 3694.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.—GENERAL STATISTICS FOR THE MOTORS AND GENERATORS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3621)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	380	241	94,075	582,728	68,583	139,903	378,838	990,318	714,018	1,704,995	37,698	(X)
1962.....	(NA)	(NA)	93,957	576,039	67,656	135,665	361,836	974,834	697,821	1,657,777	34,841	5
1961.....	(NA)	(NA)	95,880	570,497	67,669	133,259	349,174	933,140	640,946	1,567,328	29,417	4
1960.....	(NA)	(NA)	101,653	581,876	72,324	141,440	358,916	966,574	676,106	1,647,803	37,204	4
1959.....	(NA)	(NA)	99,621	557,603	71,272	142,823	350,341	975,821	663,812	1,614,704	31,948	3
1958.....	378	237	93,541	488,854	64,795	127,799	303,785	813,124	545,523	1,392,573	28,311	(X)
1957.....	309	217	112,003	494,556	82,420	161,343	334,271	817,601	597,352	1,453,713	38,310	(X)
1947.....	253	(NA)	125,300	368,461	100,966	(NA)	279,175	564,218	431,661	995,640	(NA)	(X)
1939.....	132	(NA)	(NA)	(NA)	44,423	(NA)	67,376	159,954	104,242	264,196	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954 and 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Motors and Generators Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Motors and Generators Industry amounted to \$1,705 million. Of this total, \$268 million were products primary to other industries; and \$74 million were receipts for miscellaneous activities. The industry shipments of primary products represent 84 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 83 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,584 million of motors and generators were shipped by all producers of these products. Of this total, \$1,363 million, or 86 percent, were shipped by plants classified in Industry 3621, Motors and Generators, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 85 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports

will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE MOTORS AND GENERATORS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3621)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	380	241	94,075	582,728	68,583	139,903	378,838	990,318	714,018	1,704,995	37,698	93,541	813,124
New England.....	17	12	2,871	16,554	1,958	3,959	10,401	28,902	23,080	53,286	590	3,209	25,089
Connecticut.....	8	5	1,833	11,731	1,209	2,488	7,376	22,871	19,621	43,243	(1)	2,212	19,048
Middle Atlantic...	85	55	26,209	182,603	18,238	38,114	112,439	311,845	234,438	542,467	10,429	30,395	291,229
New York.....	38	23	15,319	115,985	11,387	23,600	75,288	184,359	162,396	347,685	6,388	18,472	181,859
New Jersey.....	22	13	4,293	26,169	2,457	5,107	13,080	36,113	27,365	64,563	1,262	5,567	41,701
Pennsylvania.....	25	19	6,597	42,449	4,394	9,407	24,071	91,373	44,677	130,214	2,779	6,356	67,669
East North Central	142	100	43,853	275,234	32,032	65,272	179,932	453,529	298,032	757,670	16,758	43,814	364,449
Ohio.....	48	36	21,487	141,279	15,636	32,392	95,155	236,161	161,302	404,508	7,980	23,314	205,689
Indiana.....	19	13	8,351	51,260	6,447	12,703	35,502	95,885	49,693	145,841	3,935	7,358	68,936
Illinois.....	34	22	3,698	20,450	2,766	5,617	13,749	31,894	25,146	60,620	1,940	3,226	27,505
Michigan.....	18	13	3,645	19,093	2,942	6,046	13,475	25,661	22,193	46,220	940	2,607	17,291
Wisconsin.....	23	16	6,672	43,152	4,241	8,514	22,051	63,928	39,698	100,481	1,963	7,309	45,028
West North Central	22	15	7,233	43,819	5,556	11,223	31,415	62,124	56,140	117,128	3,806	8,970	71,078
Minnesota.....	9	6	2,320	15,701	1,607	3,307	9,725	26,999	17,903	44,707	1,064	2,129	21,946
South Atlantic....	18	12	3,318	13,328	2,299	4,275	8,072	22,837	15,657	40,980	1,128	1,125	8,192
Virginia.....	5	4	751	3,042	603	1,230	2,040	6,225	6,169	11,949	(1)	196	1,142
East South Central	11	9	2,508	9,009	2,324	4,623	7,611	29,791	23,920	51,487	1,780	539	4,183
West South Central	20	12	2,857	11,150	2,589	5,185	9,298	30,923	23,067	52,607	1,190	1,143	12,500
Arkansas.....	10	8	2,630	10,033	2,408	4,811	8,470	27,458	20,507	46,714	1,074	1,124	12,331
West.....	65	26	5,226	31,031	3,587	7,252	19,670	50,367	39,684	89,370	2,017	4,346	36,404

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—VALUE OF MOTORS AND GENERATORS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Motors and Generators Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments (\$1,000)			
		1963		1958	
		Total shipments including inter-plant transfers	Shipments to other companies (commercial shipments)	Total shipments including inter-plant transfers	Shipments to other companies (commercial shipments)
3621- --	Motors and generators, total.....	1,583,558	1,357,526	1,291,390	1,155,700
36211 00	Fractional horsepower motors:				
	As reported in the census of manufactures.....	r 611,881	r 453,577	435,820	365,226
	As reported on Census Annual Form MA-36H <sup>1</sup> .....	r 594,000	r 441,000	(X)	(X)
36212 00	Integral horsepower motors and generators:				
	As reported in the census of manufactures.....	391,873	358,163	430,458	394,398
	As reported on Census Annual Form MA-36H.....	378,806	345,133	(X)	(X)
36213 00	Land transportation motors, generators, and control equipment and parts:				
	As reported in the census of manufactures.....	r 89,823	r 85,376	52,367	52,367
	As reported on Census Annual Form MA-36H <sup>1</sup> .....	r 89,000	r 85,000	(X)	(X)
36214 00	Prime mover generator sets, except steam or hydraulic turbine:				
	As reported in the census of manufactures.....	102,263	102,263	73,865	( <sup>2</sup> )
	As reported on Census Annual Form MA-36H.....	97,561	97,561	(X)	(X)
36215 00	Motor-generator sets and other rotating equipment:				
	As reported in the census of manufactures.....	r 245,396	r 217,926	164,057	( <sup>3</sup> )
	As reported on Census Annual Form MA-36H <sup>1</sup> .....	r 240,000	r 213,000	(X)	(X)
36216 11	Parts and supplies for motors, generators, and motor-generator sets, except for land transportation equipment.....	132,652	130,551	108,881	107,648
36210 00	Motors, generators and generator sets, not specified by kind.....	9,670	9,670	25,942	25,942

(X) Not applicable. <sup>1</sup>Revised.<sup>1</sup>Value shown has been revised based on a reconciliation between the census of manufactures and Current Industrial Reports Series M36H, "Motors and Generators." Revisions to the detail will be shown in the 1964 M36H release.<sup>2</sup>Represents over 95 percent of total value of shipments.<sup>3</sup>Represents between 80 and 90 percent of total value of shipments.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36A-5



INDUSTRY SERIES

preliminary  
report

Industrial controls

SIC Code 3622

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Industrial Controls Industry shipped products valued at \$655 million, an increase of 59 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 20 percent from 1958 and 2 percent from 1962 to a total of 33 thousand employees in 1963. Value added by manufacture amounted to \$455 million in 1963, an increase of 61 percent from 1958 and 11 percent from 1962.

The Industrial Controls Industry includes establishments engaged primarily in the manufacture of motor starters and controllers, control accessories, electronic controls, and other industrial controls. Establishments primarily engaged in manufacturing automatic temperature controls are classified in Industry 3822.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE INDUSTRIAL CONTROLS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3622)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	346	108	33,485	216,363	22,888	45,211	126,200	454,650	210,417	655,355	25,631	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	32,870	205,336	21,614	43,923	117,850	414,800	186,531	593,261	16,293	3
1961 <sup>2</sup> .....	(NA)	(NA)	31,635	192,320	20,301	40,301	105,951	388,190	171,068	548,283	17,698	2
1960 <sup>2</sup> .....	(NA)	(NA)	30,540	178,963	19,991	39,547	101,445	373,243	162,694	532,400	18,424	2
1959 <sup>2</sup> .....	(NA)	(NA)	28,227	165,574	19,190	38,744	97,893	349,843	152,959	496,681	9,796	1
1958 <sup>2</sup> .....	216	75	27,150	145,270	17,311	33,660	81,769	281,890	125,017	413,163	7,611	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1959 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that comparable data for prior years are not available.

July 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

VALUE ADDED BY MANUFACTURE

For 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Industrial Controls Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Industrial Controls Industry amounted to \$655 million. Of this total, \$146 million were products primary to other industries; and \$25 million were receipts for miscellaneous activities. The industry shipments of primary products represent 77 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 79 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$620 million of industrial controls were shipped by all producers of these products. Of this total, \$484 million, or 78 percent, were shipped by plants classified in Industry 3622, Industrial Controls, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 70 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE INDUSTRIAL CONTROLS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3622)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	346	108	33,485	216,363	22,888	45,211	126,200	454,650	210,417	655,355	25,631	27,150	281,890
New England.....	31	10	2,139	11,174	1,227	2,492	5,584	22,827	11,366	32,759	1,019	1,352	12,754
Connecticut.....	13	4	976	5,729	579	1,224	2,804	12,160	5,561	16,199	(1)	637	6,453
Middle Atlantic.....	78	18	2,931	24,887	2,027	4,255	11,610	37,563	30,881	66,722	572	1,980	14,514
New Jersey.....	23	8	556	2,853	415	818	1,937	4,144	4,811	9,219	(1)	177	1,191
East North Central.....	116	42	20,525	130,772	14,980	29,045	86,009	296,639	115,835	408,150	21,554	18,656	194,262
Ohio.....	28	9	2,432	16,707	1,407	2,767	8,631	30,174	18,433	48,269	(1)	2,508	23,432
Illinois.....	38	14	3,362	20,182	2,387	4,899	11,466	55,574	24,534	79,872	(D)	2,567	30,969
Wisconsin.....	19	8	12,635	81,606	9,893	18,876	60,021	191,548	58,925	247,826	(D)	12,143	131,010
West North Central.....	13	5	983	6,150	546	1,109	2,723	9,087	6,211	14,815	(1)	598	6,295
South.....	38	17	5,447	33,492	3,179	6,414	15,188	69,683	35,287	103,686	1,605	3,626	43,551
West.....	70	16	1,460	9,888	929	1,896	5,086	18,851	10,837	29,223	748	938	10,494
California.....	48	14	1,248	8,584	788	1,612	4,306	16,319	8,461	24,360	641	753	8,532

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF INDUSTRIAL CONTROLS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Industrial Controls Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3622- --	Industrial controls, total.....	620,396	447,297
36220 00	Industrial controls:		
	As reported in the census of manufactures.....	620,396	447,297
	As reported on Census Annual Form MA-36A <sup>1</sup> .....	594,913	(X)

(X) Not applicable.

<sup>1</sup>See Current Industrial Reports Series M36A, "Switchgear, Switchboard Apparatus, Relays and Industrial Controls" for more detailed product data.



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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36A-6



INDUSTRY SERIES

preliminary  
report

## Electric welding apparatus

SIC Code 3623

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Electric Welding Apparatus Industry had total shipments valued at \$319 million, an increase of 29 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 7 percent from 1958 to a total of 9.2 thousand employees in 1963. Value added by manufacture amounted to \$155 million in 1963, an increase of 38 percent from 1958.

The Electric Welding Apparatus Industry includes establishments engaged primarily in the manufacture of electric welding apparatus and accessories. Establishments which coat only and those which draw the wire and coat it are also included. Establishments primarily engaged in manufacturing gas welding apparatus are classified in Industry 3548.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE ELECTRIC WELDING APPARATUS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3623)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	145	71	9,229	69,328	6,234	13,221	42,574	155,303	164,381	319,389	5,229
1958.....	135	70	9,895	60,761	6,392	12,746	33,048	112,709	135,219	247,739	4,330
1954 <sup>3</sup> .....	119	62	8,186	45,719	5,484	11,400	26,427	77,494	99,557	179,945	4,713
1947 <sup>3</sup> .....	108	60	7,265	29,151	5,139	10,185	17,709	57,310	46,402	103,712	(NA)
1939 <sup>3</sup> .....	47	(NA)	(NA)	(NA)	1,653	(NA)	2,482	10,313	10,339	20,652	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954, 1958, and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure

available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Electric Welding Apparatus Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Welding Apparatus Industry amounted to \$319 million. Of this total, \$18 million were products primary to other industries; and \$22 million were receipts for miscellaneous activities. The industry shipments of primary products represented 94 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 92 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$314 million of electric welding apparatus were shipped by all producers of these products. Of this total, \$280 million or 89 percent, were shipped by plants classified in Industry 3623, Electric Welding Apparatus, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 92 percent.

### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities



(contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965

through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE ELECTRIC WELDING APPARATUS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3623)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	145	71	9,229	69,328	6,234	13,221	42,574	155,303	164,381	319,389	5,229	9,895	112,709
Northeast.....	43	18	1,712	10,988	1,063	2,162	5,890	36,246	35,244	71,367	957	1,521	18,726
East North Central	64	39	6,011	48,675	4,142	8,978	31,158	99,540	102,853	202,230	3,725	6,506	76,953
Ohio.....	11	7	2,915	27,041	2,030	4,517	17,786	60,360	61,684	122,187	2,560	3,168	42,459
Michigan.....	34	21	1,601	11,848	1,134	2,375	7,203	18,946	18,330	37,560	( <sup>1</sup> )	1,742	18,313
Wisconsin.....	9	6	908	7,258	623	1,336	4,073	13,521	18,262	31,742	627	878	9,546
West North Central	12	4	266	1,664	156	324	749	2,624	2,682	5,188	( <sup>1</sup> )	529	4,698
South.....	9	3	546	3,444	427	886	2,387	7,790	14,832	22,835	( <sup>1</sup> )	530	4,882
West.....	17	7	694	4,557	446	871	2,390	9,103	8,770	17,769	( <sup>1</sup> )	809	7,450

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3A.—QUANTITY AND VALUE OF ELECTRIC WELDING APPARATUS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Electric Welding Apparatus Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3623- --	Electric welding apparatus, total.....		(X)	313,545	(X)	233,235
36231 --	Arc welding machines, components, and accessories, except electrodes.....		(X)	102,781	(X)	65,797
	Arc welding machines:					
	Alternating current transformer arc welders:					
36231 11	180 amp. and below.....	Number....	72,508	7,771	64,824	7,314
36231 15	Over 180 amp.....	..do.....	55,103	9,482	(NA)	4,739
	Direct current arc welders:					
36231 31	Generators only.....	..do.....	7,326	3,631	(NA)	1,788
36231 32	Rectifier types, including a.c.-d.c.....	..do.....	16,092	12,557	8,443	7,191
	Complete units only:					
36231 33	Engine driven.....	..do.....	34,604	30,529	23,125	14,072
36231 35	Motor driven.....	..do.....				5,679
36231 98	Accessories for arc welding machinery (including electrode holders, ground clamps, arc torches, automatic welding heads, semi-automatic welding guns, standard positioners, etc., but excluding welding rods).....		(X)	36,524	(X)	21,512
36231 00	Arc welding machines, components, and electrodes, not specified by kind.....		(X)	2,287	(X)	3,502
36232 --	Arc welding electrodes, metal.....		(X)	144,209	(X)	116,438
	Cut lengths:					
36232 11	Mild steel.....	1,000 lbs.	456,106	66,827	390,363	58,556
36232 23	Low alloy steel, except hard surfacing.....	..do.....	42,695	12,775	28,559	6,442
36232 25	Stainless steel (chromium 4 percent or more).....	..do.....	13,677	17,710	13,794	16,573
36232 31	Nonferrous, except hard surfacing.....	..do.....	9,483	10,264	3,301	6,482
36232 41	Hard surfacing, all types (including tool steel).....	..do.....	13,210	15,780	16,272	14,622
36232 53	Coils and spools, all metals, for automatic arc welding and inert gas shielded arc welding (including electrodes for submerged arc welding).....	..do.....	87,498	20,646	67,273	12,275
36232 00	Metal arc welding electrodes, not specified by kind.....		(X)	207	(X)	1,488
36233 --	Resistance welders, components, accessories and electrodes.....		(X)	62,713	(X)	47,760
36233 11	Spot welders (including single electrode, multi-electrode, and gun types).....	Number....	7,888	16,865	4,887	10,834
36233 21	Projection welders.....	..do.....	370	2,874	332	2,622
36233 31	Seam welders.....	..do.....	165	3,983	450	3,727
36233 41	Flash, upset and butt welders.....	..do.....	934	2,890	569	1,776
36233 51	Other resistance welders.....	..do.....	(X)	14,247	(X)	8,335
36233 61	Resistance welder transformers (sold separately).....	Number....	7,757	2,251	4,521	1,039
36233 71	Resistance welder electrodes.....	1,000 lbs.	1,732	4,252	2,824	5,293
36233 81	Resistance welder accessories, including electrode holders, etc....	..do.....	(X)	12,448	(X)	9,176
36233 00	Resistance welders, parts, components, accessories and electrodes, not specified by kind.....		(X)	2,903	(X)	4,958
36230 00	Electric welding apparatus, not specified by kind.....		(X)	3,842	(X)	3,240

(NA) Not available. (X) Not applicable.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR ELECTRIC WELDING APPARATUS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3623-	Electric welding apparatus.....1963...	147	133
	.....1958...	113	129
36231	Arc welding machines, components, and accessories, except electrodes.....1963...	229	122
	.....1958...	146	122
36232	Arc welding electrodes, metal.....1963...	153	130
	.....1958...	126	128
36233	Resistance welders, components, accessories, and electrodes.....1963...	80	153
	.....1958...	68	137

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36A-7



INDUSTRY SERIES

preliminary  
report

## Carbon and graphite products

SIC Code 3624

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Carbon and Graphite Products Industry had total shipments valued at \$227 million, an increase of 46 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 15 percent from 1958 and 5 percent from 1962 to a total of 10.2 thousand employees in 1963. Value added by manufacture amounted to \$141 million in 1963, an increase of 38 percent from 1958 and 10 percent from 1962.

The Carbon and Graphite Products Industry includes establishments engaged primarily in the manufacture of lighting carbons; carbon, graphite, and metal graphite brushes and brush stock; carbon or graphite electrodes for thermal and electrolytic uses; and other carbon, graphite, and metal graphite products.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE CARBON AND GRAPHITE PRODUCTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3624)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	54	41	10,204	62,760	8,026	16,223	44,727	140,947	85,174	226,914	11,698	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	9,706	56,489	7,254	14,627	37,978	128,402	70,074	196,490	10,931	3
1961 <sup>2</sup> .....	(NA)	(NA)	9,239	52,323	6,886	13,511	34,917	113,946	66,323	182,887	5,499	2
1960 <sup>2</sup> .....	(NA)	(NA)	9,602	52,756	7,275	14,086	35,835	120,794	66,721	184,147	7,007	2
1959 <sup>2</sup> .....	(NA)	(NA)	9,938	53,625	7,662	15,389	37,416	118,143	70,171	193,120	(5,753)	1
1958.....	46	35	8,904	45,628	6,620	13,015	30,551	102,483	58,990	154,925	-11,068	(X)
1957 <sup>3</sup> .....	53	31	8,297	35,976	6,352	12,600	24,190	64,579	48,712	111,718	6,492	(X)
1947 <sup>3</sup> .....	44	25	7,818	22,028	6,426	12,856	16,504	40,218	28,527	68,745	(NA)	(X)
1939 <sup>3</sup> .....	31	(NA)	4,053	6,675	3,189	(NA)	4,484	11,694	6,682	18,376	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

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and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure

available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Carbon and Graphite Products Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Carbon and Graphite Products Industry amounted to \$227 million. Of this total, \$16 million were products primary to other industries; and \$4 million were receipts for miscellaneous activities. The industry shipments of primary products represented 93 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 97 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$216 million of carbon and graphite products were shipped by all producers of these products. Of this total, \$207 million, or 96 percent, were shipped by plants classified in Industry 3624, Carbon and Graphite Products, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 95 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965

through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE CARBON AND GRAPHITE PRODUCTS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3624)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture  (\$1,000)	Cost of materials  (\$1,000)	Value of shipments  (\$1,000)	Capital expend- itures, new  (\$1,000)	All employ- ees, number	Value added by manufac- ture  (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	54	41	10,204	62,760	8,026	16,223	44,727	140,947	85,174	226,914	11,698	8,904	102,483
Northeast.....	27	18	5,099	30,624	3,988	8,133	21,634	55,266	37,982	93,250	5,292	4,744	44,036
Pennsylvania....	10	7	2,370	12,618	1,992	3,938	9,645	22,355	10,472	32,584	3,074	2,356	14,068
North Central, South and West...	27	23	5,105	32,136	4,038	8,090	23,093	85,681	47,192	133,664	6,406	4,160	58,447

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—VALUE OF CARBON AND GRAPHITE PRODUCTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Carbon and Graphite Products Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3624- --	Carbon and graphite products, total.....	215,764	156,818
	Contacts and brush plates (carbon, carbon-graphite, electro-graphite, graphite, metal graphite, and metal impregnated):		
36240 11	Automotive (starter and generator) brushes, including replacement brushes (automotive and light truck type - 6 to 12 volts, inclusive, excluding automobile accessory brushes).....	11,419	7,804
36240 13	Other fractional horsepower brushes and contacts, including replacement brushes (brushes 1/4 square inch or less in cross section for 1-1/2 inches long or less) and automobile accessory brushes.....	7,187	5,997
36240 15	Other industrial brushes and contacts (brushes over 1/4 square inch in cross section and over 1-1/2 inches long).....	18,834	15,139
36240 17	Brush plates.....	1,928	2,239
	Electrodes (carbon, carbon graphite, electro-graphite, graphite, metal graphite, and metal impregnated):		
	Electrodes for electric furnaces and electrolytic cell use, including paste for self-bake electrodes:		
36240 52	Carbon.....	25,175	75,343
36240 56	Graphite.....	78,424	
	All other carbon and graphite products:		
36240 81	For electrical uses, including welding products — rods, plates, paste brazing and soldering tips; illuminating carbons; pile and rheostat resistance discs, plugs, plates and rods; power tube and rectifier parts and plates or rods; spectroscopic products; battery; electornic graphite; telephone components; resistance elements; etc., excluding silver or other metal contacts.....	25,971	17,302
36240 83	For mechanical uses, including one-piece seals, bushings and bearings, packing rings for steam seal, rotor vanes, etc., excluding metallic oilless bearings.....	11,743	6,725
36240 86	For aerospace uses, including unmachined stock and machined items.....	34,323	25,358
36240 87	For nuclear uses, including unmachined stock and machined parts for use in nuclear reactors and for in processing nuclear materials.....		
36240 89	For all other uses, including chemical, metallurgical, refractory, etc.....		
36240 00	Carbon and graphite products, not specified by kind.....	760	911

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36A-8



## INDUSTRY SERIES

**preliminary  
report**

### Electric industrial goods, n.e.c.

SIC Code 3629

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Electric Industrial Goods, N.E.C., Industry had total shipments valued at \$219 million, a decrease of 4 percent from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 17 percent from 1958 to a total of 14 thousand employees in 1963. Value added by manufacture amounted to \$141 million in 1963, an increase of 2 percent from 1958.

The Electric Industrial Goods, N.E.C., Industry includes establishments engaged primarily in the manufacture of industrial and commercial electric apparatus and equipment, not elsewhere classified, such as fixed and variable capacitors, condensers, and rectifiers for industrial application. Establishments primarily engaged in manufacturing fixed and variable capacitors and condensers for electronic end products are classified in Industry 3679, and rectifiers for electronic end products in Industry 3674.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing

Table 1.—GENERAL STATISTICS FOR THE ELECTRIC INDUSTRIAL GOODS, N.E.C., INDUSTRY IN THE UNITED STATES: 1958 AND 1963

(SIC code 3629)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	231	107	14,010	72,773	10,873	21,142	47,520	140,854	99,347	219,144	3,981
1958 <sup>3</sup> .....	286	111	16,842	78,595	11,838	23,619	47,011	137,547	93,079	228,929	8,467

n.e.c. Not elsewhere classified.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

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establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the periods 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958 and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

#### VALUE ADDED BY MANUFACTURE

For 1958 and 1963 value added; by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Electric Industrial Goods, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Electric Industrial Goods, N.E.C., Industry amounted to \$219 million. Of this total, \$23 million were products primary to other industries; and \$12 million were receipts for miscellaneous activities. The industry shipments of primary products represent 89 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 71 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$251 million of electric industrial goods, n.e.c., were shipped by all producers of these products. Of this total, \$184 million, or 73 percent, were shipped by plants classified in Industry 3629, Electric Industrial Goods, N.E.C., while the remainder was shipped by plants classified in other industries. The 1958 ratio also was 73 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE ELECTRIC INDUSTRIAL GOODS, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3629)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	231	107	14,010	72,773	10,873	21,142	47,520	140,854	99,347	219,144	3,981	16,842	137,547
New England.....	20	8	790	2,934	675	1,266	2,130	3,981	2,689	6,704	( <sup>1</sup> )	1,592	9,396
Middle Atlantic...	70	31	4,408	25,887	3,208	6,243	16,550	55,457	33,779	88,486	1,238	4,414	38,451
New York.....	38	14	2,311	13,238	1,676	3,228	8,025	25,686	16,506	42,603	600	2,239	17,906
West North Central	14	7	538	2,631	441	848	1,980	7,132	5,303	12,161	( <sup>1</sup> )	602	3,728
All other divisions.....	127	61	8,274	41,321	6,549	12,785	26,860	74,284	57,576	111,793	2,347	10,234	85,972
Ohio.....	16	8	1,823	10,157	1,426	2,859	7,144	21,037	14,136	32,752	660	1,938	18,987
Michigan.....	11	4	283	1,419	234	445	879	2,770	1,600	4,358	( <sup>1</sup> )	211	1,082

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

n.e.c. Not elsewhere classified.

<sup>1</sup>Less than \$500 thousand.



Table 3.—QUANTITY AND VALUE OF ELECTRICAL INDUSTRIAL APPARATUS, N.E.O., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Electrical Industrial Goods, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3629- --	Electrical industrial apparatus, n.e.c., total.....		(X)	250,804	(X)	213,073
36291 --	Capacitors for industrial use (except for electronic applicators).....		(X)	51,430	(X)	57,122
36291 11	Power capacitors, including shunt and series capacitors and accessories.....		(X)	22,202	(X)	22,635
36291 31	A.c. capacitors (except electrolytic):					
36291 35	General purpose for motors, controls, etc.....	1,000 units.	6,118	14,351	4,813	11,506
	Capacitors for fluorescent lamp ballasts.....	do.	18,351	12,120	15,251	13,399
36291 98	Other capacitors, except for electronic applications.....		(X)	2,757	(X)	5,232
36292 --	Rectifying apparatus.....		(X)	87,582	(X)	73,072
	Rectifying (power conversion) apparatus (except for electronic applications) including all apparatus using semiconductors and/or electron tubes as power conversion means:					
	Semiconductor power conversion apparatus:					
	Semiconductor battery chargers:					
36292 21	Automotive.....	No. of units	758,601	16,404	(NA)	5,924
36292 25	Industrial and railroad.....	do.	182,316	10,120	(NA)	8,639
36292 31	Semiconductor computer supplies.....		(X)	( <sup>1</sup> )	(X)	9,339
	Semiconductor high-voltage power supplies in excess of 2kv. (excluding separate associated apparatus such as controls, capacitors, switch gear, etc.):					
36292 41	100 kw. and below.....		(X)	8,770	(X)	6,221
36292 45	Above 100 kw.....					
36292 49	All other a.c. to d.c. semiconductor power conversion apparatus.....		(X)	19,128	(X)	7,767
36292 51	Power mercury arc rectifiers.....		(X)	10,971	(X)	11,456
36292 98	Other rectifying (power conversion) apparatus.....		(X)	20,737	(X)	22,328
36292 00	Rectifying apparatus, not specified by kind.....		(X)	1,452	(X)	1,398
36293 --	Other electrical equipment for industrial use.....		(X)	103,703	(X)	77,064
36293 11	Coil windings, electrical.....	1,000 units.	20,026	45,572	(NA)	39,977
36293 98	Other miscellaneous electrical equipment for industrial use, n.e.c.....		(X)	58,131	(X)	37,087
36290 00	Electrical industrial apparatus, not specified by kind.....		(X)	8,089	(X)	5,815

(NA) Not available. n.e.c. Not elsewhere classified. (X) Not applicable.

<sup>1</sup>Data for product code 3629231 are included with 3629251 in 1963 to prevent disclosing figures of individual companies.

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U.S. DEPARTMENT OF COMMERCE

# 1963 CENSUS OF MANUFACTURES

MC63(P)-36B-1



INDUSTRY SERIES

preliminary  
report

## Household cooking equipment

SIC Code 3631

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Household Cooking Equipment Industry had total shipments valued at \$472 million, an increase of 29 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 5 percent from 1958 and 2 percent from 1962 to a total of 19 thousand employees in 1963. Value added by manufacture amounted to \$230 million in 1963, an increase of 27 percent from 1958 and 19 percent from 1962.

The Household Cooking Equipment Industry includes establishments engaged primarily the manufacture of household cooking equipment, such as stoves, ranges, and ovens. Establishments primarily engaged in manufacturing household cooking appliances, such as hot plates, grills, percolators, and toasters are classified in Industry 3634. Establishments primarily engaged in manufacturing commercial cooking equipment are classified in Industry 3589.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date.

Table 1.—GENERAL STATISTICS FOR THE HOUSEHOLD COOKING EQUIPMENT INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3631)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	82	52	19,078	110,657	15,027	30,112	74,897	229,502	252,962	472,114	8,162	(X)
1962 <sup>3</sup> .....	(NA)	(NA)	18,787	102,704	14,158	27,216	66,463	192,219	216,962	411,859	4,736	3
1961 <sup>3</sup> .....	(NA)	(NA)	18,882	102,103	14,184	27,904	65,878	184,862	218,070	401,412	3,728	2
1960 <sup>3</sup> .....	(NA)	(NA)	20,127	104,139	15,031	29,197	63,084	186,191	219,697	407,253	6,970	2
1959 <sup>3</sup> .....	(NA)	(NA)	18,979	96,746	14,979	29,971	66,146	194,260	216,927	411,370	6,163	1
1958 <sup>3</sup> .....	69	55	18,152	89,239	14,101	28,160	60,331	181,091	184,950	364,852	4,002	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1959 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

VALUE ADDED BY MANUFACTURE

For the period 1958-1963 value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Household Cooking Equipment Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Household Cooking Equipment Industry amounted to \$472 million. Of this total, \$58 million were products primary to other industries; and \$29 million were receipts for miscellaneous activities. The industry shipments of primary

products represent 87 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 88 percent.

The total value of shipments for the industry (i.e. the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$535 million of household cooking equipment were shipped by all producers of these products. Of this total, \$385 million, or 72 percent, were shipped by plants classified in Industry 3631, Household Cooking Equipment, while the remainder was shipped by plants classified in other industries. The 1958 ratio was also 72 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.



Table 2.—GENERAL STATISTICS FOR THE HOUSEHOLD COOKING EQUIPMENT INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3631)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	82	52	19,078	110,657	15,027	30,112	74,897	229,502	252,962	472,114	8,162	18,152	181,091
Northeast.....	15	11	2,897	16,441	2,331	4,679	10,790	28,568	34,446	60,621	939	3,019	20,140
North Central.....	31	19	8,306	49,178	6,561	12,643	34,483	93,763	104,448	196,284	2,142	8,887	90,176
Illinois.....	18	12	5,214	30,139	4,489	8,492	23,761	57,592	69,059	125,608	1,203	5,628	56,719
South.....	21	11	5,472	29,385	4,455	9,320	20,894	79,602	84,096	159,275	3,991	4,245	51,561
Pacific.....	15	11	2,403	15,653	1,680	3,470	8,730	27,569	29,972	55,934	1,090	2,001	19,214
California.....	15	11	2,403	15,653	1,680	3,470	8,730	27,569	29,972	55,934	1,090	2,001	19,214

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—QUANTITY AND VALUE OF HOUSEHOLD COOKING EQUIPMENT SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Household Cooking Equipment Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3631- --	Household cooking equipment, total.....	(X)	535,497	(X)	433,123
36311 --	Electric household ranges and ovens; surface cooking equipment and parts, excluding small appliances.....	(X)	283,534	(X)	203,748
36311 11	Electric ranges, over 2-1/2 kw, excluding range-refrigerator combinations: Free standing ranges: 22" and under in width (including apartment-house type).....	74	6,118	454	55,963
36311 21	Over 22" up to and including 32" in width: Low oven.....	521	61,228		
36311 23	High oven (or high and low oven).....	172	36,456		
36311 31	Over 32" up to and including 38" width: Low oven.....	55	7,060	335	52,896
36311 33	High oven (or high and low oven).....				
36311 43	Over 38" in width: Low oven.....	189	27,693		
36311 45	High oven (or high and low oven).....	38	11,844		
	Other than free standing: Built-in ranges: Regular built-in or stack-on oven-broiler units:				
36311 53	Single oven.....	393	34,127	(X)	194,889
36311 55	Double oven.....	81	10,746		
36311 61	Cooking tops (surface units).....	399	21,800		
36311 71	Drop-in ranges.....	277	32,441	(NA)	(NA)
36311 73	Other electric ranges not listed above.....			(X)	(NA)
36311 81	Parts and accessories for household electric ranges and ovens, including such items as burners, rotisseries, oven racks, broiler pans, etc. (sold separately).....	(X)	(X)	34,021	(1)
36312 --	Household ovens and ranges, equipment, and parts (except electric).....	(X)	250,924	(X)	229,375
36312 10	Domestic cooking appliances, except electric: Reported in census of manufactures.....	(X)	216,814	(X)	199,192
	Reported on Annual Form MA-34N.....	(X)	209,000	(X)	196,863
36312 11	Barbecuers, grills, and braziers for outdoor cooking.....	3,711	23,630	(X)	30,183
36312 98	Other household cooking equipment (except electric) and parts for cooking equipment sold separately.....	(X)	9,439		
36312 00	Domestic cooking appliances, not specified by kind.....	(X)	1,041	-	-
36310 00	Household cooking equipment, not specified by kind.....	(X)	1,039	-	-

- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>Product code 3631181 is included with product codes 3631153, 3631155, and 3631161 in 1958.

<sup>2</sup>Value shown is preliminary. Detailed product statistics will be published later this year in Current Industrial Report Series M 34N "Heating and Cooking Equipment."

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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OFFICIAL BUSINESS

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

# 1963 CENSUS OF MANUFACTURES

MC63(P)-36B-2

preliminary  
report

INDUSTRY SERIES

## Household refrigerators

SIC Code 3632

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Household Refrigerators Industry had total shipments valued at \$1,305 million, an increase of 30 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 4 percent from 1958 and 2 percent from 1962 to a total of 43 thousand employees in 1963. Value added by manufacture amounted to \$629 million in 1963, an increase of 45 percent from 1958 and 10 percent from 1962.

The Household Refrigerators Industry includes establishments engaged primarily in the manufacture of household refrigerators and home and farm freezers. Establishments primarily engaged in manufacturing commercial and industrial refrigeration equipment, packaged room coolers, and dehumidifiers are classified in Industry 3585.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE HOUSEHOLD REFRIGERATORS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3632)

Year	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	34	25	43,065	279,977	35,216	73,740	212,228	629,252	696,141	1,304,525	21,764	(X)
1962.....	(NA)	(NA)	42,110	259,054	34,849	73,040	199,392	570,432	661,374	1,025,186	13,333	3
1961.....	(NA)	(NA)	41,714	253,579	33,855	66,812	192,422	470,067	621,963	1,101,562	13,757	2
1960.....	(NA)	(NA)	47,137	265,108	38,835	73,899	202,905	525,537	660,740	1,156,781	16,023	2
1959.....	(NA)	(NA)	47,016	253,554	38,972	77,429	195,100	537,346	672,934	1,199,406	(12,541)	1
1958.....	26	26	41,493	221,439	33,177	65,592	167,352	433,369	537,586	1,002,302	9,870	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that comparable data for prior years are not available.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Household Refrigerators Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Household Refrigerators Industry amounted to \$1,305 million. Of this total, \$430 million were products primary to other industries; and \$44 million were receipts for miscellaneous activities. The industry shipments of primary products represent 66 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 74 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$832 million of household refrigerators and home and farm freezers were shipped by all producers of these products. Of this total, \$831 million, or 99 percent, were shipped by plants classified in Industry 3632, Household Refrigerators, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 98.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE HOUSEHOLD REFRIGERATORS INDUSTRY BY GEOGRAPHIC AREAS: 1963 and 1958

(SIC code 3632)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	34	25	43,065	279,977	35,216	73,740	212,228	629,252	696,141	1,304,525	21,764	41,493	433,369
East North Central	19	17	34,130	226,342	27,883	59,341	172,159	494,677	536,686	1,017,124	18,510	32,068	311,460
Michigan.....	7	6	4,939	29,729	4,028	8,303	22,547	55,894	87,845	142,205	3,959	4,696	37,092
All other divisions.....	15	8	8,935	53,635	7,333	14,399	40,069	134,575	159,455	287,401	3,254	9,425	121,909

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)



Table 3.—QUANTITY AND VALUE OF HOUSEHOLD REFRIGERATORS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Household Refrigerators Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963			1958		
		Production for all purposes (Number of units)	Total shipments including interplant transfers		Production for all purposes (Number of units)	Total shipments including interplant transfers	
			Quantity (Number of units)	Value (\$1,000)		Quantity (Number of units)	Value (\$1,000)
3632- --	Household refrigerators and home and farm freezers	(X)	(X)	831,785	(X)	(X)	729,170
36321 --	Household refrigerators.....	4,217,209	4,095,023	687,561	3,037,780	3,153,256	551,164
	Household mechanical refrigerators (including combination refrigerator freezers):						
	Complete units:						
36321 07	6.4 cubic feet and under.....	37,330	41,757	3,673	31,234	28,110	3,690
36321 13	6.5 to 7.4 cubic feet.....						
36321 14	7.5 to 8.4 cubic feet.....						
36321 15	8.5 to 9.4 cubic feet.....						
36321 16	9.5 to 10.4 cubic feet.....	47,014	46,987	4,977	356,334	378,738	42,852
		429,564	413,254	44,853	254,230	236,074	27,772
					269,010	265,833	35,635
	10.5 to 11.4 cubic feet:						
36321 17	Single exterior door.....	133,331	122,691	13,075	743,908	781,370	113,146
	Two exterior doors or door and drawer.....	73,091	78,723	12,164			
	11.5 to 12.4 cubic feet:						
36321 23	Single exterior door.....	641,303	633,166	76,898	687,415	716,968	144,116
36321 24	Two exterior doors or door and drawer.....	281,269	254,896	34,526			
	12.5 to 13.4 cubic feet:						
36321 25	Single exterior door.....	146,881	145,113	22,008	269,812	289,861	57,744
36321 26	Two exterior doors or door and drawer.....	621,525	630,505	105,038			
	13.5 to 14.4 cubic feet:						
36321 27	Single exterior door.....	1,234,949	1,175,378	226,451	410,458	434,721	120,175
36321 28	Two exterior doors or door and drawer.....						
	14.5 to 15.4 cubic feet:						
36321 31	Single exterior door.....	147,099	151,664	35,771			
36321 32	Two exterior doors or door and drawer.....						
	15.5 to 16.4 cubic feet:						
36321 34	Single exterior door.....	403,609	378,497	102,572			
36321 35	Two exterior doors or door and drawer.....						
	16.5 cubic feet and over:						
36321 37	Single exterior door.....	403,609	378,497	102,572			
36321 38	Two exterior doors or door and drawer.....						
36321 41	Range-refrigerator and/or sink combinations.....	20,244	22,392	5,555	15,379	21,581	6,034
36322 --	Home and farm freezers.....	1,047,663	1,005,859	143,132	955,925	996,973	178,006
	Home and farm freezers, complete units for freezing and/or storing foods:						
	8.4 cubic feet and under:						
36322 11	Upright type.....	16,768	18,369	1,714	20,636	19,704	2,621
36322 12	Chest type.....						
	8.5 to 10.4 cubic feet:						
36322 14	Upright type.....	56,570	49,540	5,788	59,603	60,968	7,682
36322 15	Chest type.....						
	10.5 to 12.4 cubic feet:						
36322 17	Upright type.....	96,908	96,207	12,925	133,427	137,634	20,235
36322 18	Chest type.....						
	12.5 to 14.4 cubic feet:						
36322 21	Upright type.....	143,736	137,504	18,771	159,306	153,774	26,428
36322 22	Chest type.....						
	14.5 to 15.4 cubic feet:						
36322 24	Upright type.....	139,829	128,141	16,571	136,750	144,356	24,131
36322 25	Chest type.....	84,798	87,851	10,615			
	15.5 to 17.4 cubic feet:						
36322 27	Upright type.....	123,738	118,868	18,715	446,203	480,537	96,909
36322 28	Chest type.....	103,887	102,339	13,652			
	17.5 to 19.4 cubic feet:						
36322 31	Upright type.....	51,136	50,711	9,245	446,203	480,537	96,909
36322 32	Chest type.....	19,504	17,518	2,400			
	19.5 to 21.4 cubic feet:						
36322 34	Upright type.....	47,961	42,728	7,421	446,203	480,537	96,909
36322 35	Chest type.....	51,821	51,692	8,347			
	21.5 cubic feet and over:						
36322 37	Upright type.....	32,522	31,461	5,746	446,203	480,537	96,909
36322 38	Chest type.....	78,485	72,930	11,222			
36320 00	Household refrigerators and home and farm freezers, not specified by kind.....	(X)	(X)	1,092	(X)	(X)	

- Represents zero. (X) Not applicable.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36B-3



## INDUSTRY SERIES

preliminary  
report

### Household laundry equipment

SIC Code 3633

#### 1963 CENSUS OF MANUFACTURES

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Household Laundry Equipment Industry had total shipments valued at \$763 million, an increase of 3 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 24 percent from 1958 and 12 percent from 1962 to a total of 19 thousand employees in 1963. Value added by manufacture amounted to \$355 million in 1963, an increase of 10 percent from 1958 and 3 percent from 1962.

The Household Laundry Equipment Industry includes establishments engaged primarily in the manufacture of laundry equipment such as washing machines, wringers, and dryers for household use. Establishments primarily engaged in manufacturing commercial laundry equipment are classified in Industry 3582. Although the standard industrial classification for coin operated washing machines is Industry 3582, data for these machines are included in Industry 3633 in 1963 as in 1958.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957

Table 1.—GENERAL STATISTICS FOR THE HOUSEHOLD LAUNDRY EQUIPMENT INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3633)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>2</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	40	29	18,638	116,900	15,006	29,331	86,857	355,318	417,838	763,311	9,305	(X)
1962.....	(NA)	(NA)	21,091	131,584	15,584	30,648	88,528	346,398	414,837	755,743	6,419	3
1961 <sup>2</sup> .....	(NA)	(NA)	21,480	126,735	15,594	30,438	83,620	313,836	395,675	715,361	7,070	2
1960 <sup>2</sup> .....	(NA)	(NA)	23,362	131,831	17,258	32,925	88,885	279,150	433,400	722,983	10,690	2
1959 <sup>2</sup> .....	(NA)	(NA)	25,906	142,060	19,380	37,521	96,586	347,376	488,709	835,786	11,125	1
1958.....	39	33	24,597	134,263	18,021	35,751	89,586	324,480	427,180	738,920	7,219	(X)
1954 <sup>3</sup> .....	56	39	22,105	98,556	16,710	32,497	68,066	190,686	331,882	541,346	18,569	(X)
1947 <sup>3</sup> .....	65	(NA)	28,403	85,596	23,651	48,647	65,596	161,791	280,539	442,297	(NA)	(X)
1939 <sup>3</sup> .....	42	(NA)	9,610	13,890	7,466	(NA)	9,277	25,236	36,365	61,601	(NA)	(X)

(NA) Not available. (X) Not applicable. <sup>1</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of

products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Household Laundry Equipment Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Household Laundry Equipment Industry amounted to \$763 million. Of this total, \$81 million were products primary to other industries; and \$17 million were receipts for miscellaneous activities. The industry shipments of primary products represent 89 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$763 million of household laundry equipment were shipped by all producers of these products. Of this total, \$665 million, or 87 percent, were shipped by plants classified in Industry 3633, Household Laundry Equipment, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 91.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports



will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE HOUSEHOLD LAUNDRY EQUIPMENT INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958  
(SIC code 3633)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	40	29	18,638	116,900	15,006	29,331	86,857	355,318	417,838	763,311	9,305	24,597	324,480
East North Central	22	18	12,764	80,406	10,129	19,377	58,586	218,480	307,205	516,420	6,400	13,904	181,451
All other divisions.....	18	11	5,874	36,494	4,877	9,954	28,271	136,838	110,633	246,891	2,905	10,693	143,029

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)



## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF HOUSEHOLD LAUNDRY EQUIPMENT SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Household Laundry Equipment Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3633- --	Household laundry equipment, total.....	(X)	763,298	(X)	719,574
36331 --	Household mechanical washing machines, dryers, and washer-dryer-combinations.....	(X)	692,597	(X)	672,213
	Washing machines, mechanical, including those with dishwasher attachments (standard size, electrically driven):				
36331 31	Fully automatic.....	3,503	474,010	2,821	407,832
36331 33	Semiautomatic.....				
36331 36	Nonautomatic, wringer type and spinner type.....				
36331 39	All other, including gasoline-driven and small size.....	(X)	152,791	(X)	1,440
	Dryers, mechanical:				
36331 51	Gas.....	545	57,540	393	46,791
36331 55	Electric.....	1,139	101,958	864	92,928
	Washer-dryer combinations (in one cabinet):				
36331 81	Electric.....	32	6,515	164	40,342
36331 85	Gas.....				
36332 --	Other household laundry equipment and parts.....	(X)	70,237	(X)	46,498
36332 71	Other household laundry equipment including wringers.....	(X)	4,747	(X)	27,122
36332 98	Parts, accessories, and attachments for household laundry equipment, sold separately.....	(X)	65,490	(X)	39,376
36330 00	Household laundry equipment, not specified by kind.....	(X)	464	(X)	863

(X) Not applicable.

<sup>1</sup>In 1963 the value for product code 3633139 is between \$200 and \$400 thousand.

<sup>2</sup>For 1958, includes data for ironers, mechanical, including table, cabinet, and portable. The 1963 code for this product line is 3634310.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36B-4



preliminary  
report

INDUSTRY SERIES

## Electric housewares and fans

SIC Code 3634

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Electric Housewares and Fans Industry had total shipments valued at \$835 million, an increase of 49 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 33 percent from 1958 and 11 percent from 1962 to a total of 39 thousand employees in 1963. Value added by manufacture amounted to \$447 million in 1963, an increase of 48 percent from 1958 and 11 percent from 1962.

The Electric Housewares and Fans Industry includes establishments engaged primarily in the manufacture of electric housewares for heating, cooking, and other purposes; and electric fans. Important products of this industry include electric air heaters, bed coverings, blenders, broilers, deep fat fryers, flat irons, food mixers, hot plates, percolators and coffee makers, roasters, toasters, desk and bracket fans, and hassock or floor fans.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date.

Table 1.—GENERAL STATISTICS FOR THE ELECTRIC HOUSEWARES AND FANS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3634)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	311	135	38,832	188,045	30,820	59,696	124,046	446,969	396,516	835,435	17,060	(X)
1962.....	(NA)	(NA)	35,006	170,608	27,922	52,166	112,907	403,992	355,715	740,524	10,679	6
1961.....	(NA)	(NA)	31,789	151,653	25,308	47,744	99,992	359,976	310,274	671,054	8,688	3
1960.....	(NA)	(NA)	32,334	152,561	25,833	49,101	101,544	355,716	293,010	628,566	11,193	2
1959.....	(NA)	(NA)	30,226	139,094	23,815	45,929	93,074	335,014	261,030	596,219	10,688	1
1958.....	311	105	29,150	128,850	22,477	42,804	84,557	301,033	245,105	559,090	9,985	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that comparable data for prior years are not available.

July 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

VALUE ADDED BY MANUFACTURE

For 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Electric Housewares and Fans Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Electric Housewares and Fans Industry amounted to \$835 million. Of this total, \$108 million were products primary to other

industries; and \$92 million were receipts for miscellaneous activities. The industry shipments of primary products represent 85 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 86 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$791 million of electric housewares and fans were shipped by all producers of these products. Of this total, \$635 million, or 80 percent, were shipped by plants classified in Industry 3634, Electric Housewares and Fans, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 82 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.



Table 2.—GENERAL STATISTICS FOR THE ELECTRIC HOUSEWARES AND FANS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3634)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	311	135	38,832	188,045	30,820	59,696	127,144	446,969	396,516	835,435	17,060	29,150	301,033
New England.....	26	14	5,293	26,620	4,083	8,130	17,507	87,452	48,370	133,218	2,401	4,613	57,822
Middle Atlantic...	93	36	6,536	31,368	5,244	10,058	21,289	81,195	62,000	142,354	2,158	5,422	56,849
New York.....	65	29	3,925	17,512	3,197	6,052	11,844	40,989	36,746	77,697	861	3,489	29,943
New Jersey.....	19	4	552	2,525	392	811	1,994	5,637	5,911	11,147	(1)	205	2,141
Pennsylvania....	9	3	2,059	11,331	1,655	3,195	7,451	34,569	19,343	53,510	1,202	1,728	24,765
East North Central	75	31	12,676	75,728	9,360	17,793	46,456	143,707	142,396	284,706	5,220	11,767	114,274
Illinois.....	31	16	7,022	43,917	5,228	9,919	26,972	82,085	89,355	168,805	2,873	7,549	73,860
Wisconsin.....	11	4	2,330	12,950	1,647	3,180	7,934	24,332	16,579	42,624	1,052	2,043	17,661
West North Central	18	9	2,833	11,460	2,559	5,214	9,544	23,868	26,765	50,631	798	2,214	14,724
Missouri.....	8	7	2,676	10,842	2,432	4,960	9,094	22,977	25,947	48,938	762	2,094	14,088
South and West....	99	45	11,494	42,869	9,574	18,501	32,348	110,747	116,985	224,526	6,483	5,134	57,364
North Carolina..	10	5	2,064	7,823	1,820	3,615	6,279	17,850	21,053	38,726	1,338	1,061	11,169
Tennessee.....	8	6	2,425	8,256	2,140	3,988	6,374	25,698	25,626	48,944	939	530	4,997

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF ELECTRICAL HOUSEWARES AND FANS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Electrical Housewares and Fans Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3634- --	Electrical housewares and fans, total.....	791,220	543,790
36341 10	Fans, electric (except industrial type):		
	As reported in the census of manufactures.....	100,990	77,053
	As reported on Census Annual Form MA-36E <sup>1</sup> .....	100,000	(X)
36342 10	Electric razors and dry shavers:		
	As reported in the census of manufactures.....	53,390	54,091
	As reported on Census Annual Form MA-36E <sup>2</sup> .....	53,376	(X)
36343 10	Other small household electric appliances:		
	As reported in the census of manufactures.....	556,778	336,160
	As reported on Census Annual Form MA-36E <sup>2</sup> .....	553,063	(X)
36344 --	Parts and attachments.....	70,285	55,858
36344 11	Parts and accessories for electric housewares and fans.....	63,396	51,549
36344 31	Electric controls for frying pans and for other household cooking appliances, shipped separately.....	6,889	4,309
36340 00	Electrical housewares and fans, not specified by kind.....	9,777	20,628

(X) Not applicable. <sup>2</sup>Revised.

<sup>1</sup>Value shown has been revised based on a reconciliation between the census of manufactures and Current Industrial Reports Series M6E "Electric Housewares and Fans." Revisions to the detail will be shown as part of the 1964 M6E release.

<sup>2</sup>See Current Industrial Reports Series M6E "Electric Housewares and Fans," for more detailed product data.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36B-5



INDUSTRY SERIES

preliminary  
report

## Household vacuum cleaners

SIC Code 3635

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Household Vacuum Cleaners Industry had total shipments valued at \$175 million, an increase of 23 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 6 percent from 1958 and 2 percent from 1962 to a total of 6 thousand employees in 1963. Value added by manufacture amounted to \$116 million in 1963, an increase of 38 percent from 1958 and 8 percent from 1962.

The Household Vacuum Cleaners Industry includes establishments engaged primarily in the manufacture of vacuum cleaners for household use. Establishments primarily engaged in manufacturing vacuum cleaners for industrial use are classified in Industry 3584.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE HOUSEHOLD VACUUM CLEANERS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3635)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	33	13	5,675	35,511	4,231	8,197	22,660	116,119	65,289	175,314	5,737	(X)
1962 <sup>3</sup> .....	(NA)	(NA)	5,553	33,439	4,016	7,807	20,692	107,518	59,682	163,580	4,232	3
1961 <sup>3</sup> .....	(NA)	(NA)	5,672	33,303	3,980	7,619	19,728	90,237	58,007	150,803	2,803	2
1960 <sup>3</sup> .....	(NA)	(NA)	5,739	33,634	4,057	7,894	20,312	94,148	62,431	154,421	2,280	2
1959 <sup>3</sup> .....	(NA)	(NA)	5,872	33,590	4,221	8,498	20,748	90,233	65,463	153,692	4,184	1
1958.....	27	14	5,330	29,863	3,750	7,454	17,956	84,180	55,359	142,020	2,217	(X)
1954 <sup>3</sup> .....	39	21	8,383	38,867	6,408	12,717	26,903	89,877	66,057	160,512	2,094	(X)
1947 <sup>3</sup> .....	34	20	14,880	44,880	44,797	12,232	24,434	35,266	91,047	74,994	160,184	(X)
1939 <sup>3</sup> .....	21	(NA)	(NA)	(NA)	3,886	(NA)	5,288	33,113	9,132	42,245	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Household Vacuum Cleaners Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Household Vacuum Cleaners Industry amounted to \$175 million. Of this total, \$23 million were products primary to other industries; and \$6 million were receipts for miscellaneous activities. The industry shipments of primary products represented 87 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 93 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$183 million of household vacuum cleaners were shipped by all producers of these products. Of this total, \$146 million, or 80 percent, were shipped by plants classified in Industry 3635, Household Vacuum Cleaners, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 83 percent.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE HOUSEHOLD VACUUM CLEANERS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3635)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	33	13	5,675	35,511	4,231	8,197	22,660	116,119	65,289	175,314	5,737	5,330	84,180
North Central.....	16	7	4,233	26,617	3,097	6,053	16,624	83,923	50,171	128,164	(D)	3,962	59,660
All other divisions.....	17	6	1,442	8,894	1,134	2,144	6,036	32,196	15,118	47,150	(D)	1,368	24,520

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF HOUSEHOLD VACUUM CLEANERS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Household Vacuum Cleaners Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3635- --	Vacuum cleaners, household.....	(X)	182,689	(X)	155,571
36350 11	Household vacuum cleaners, including parts and attachments: Hand type.....	141	3,321	89	1,439
36350 31	Upright, tank, canister, and other general purpose household types.....	3,797	151,235	3,144	139,551
36350 51	Attachments or cleaning tools, sold separately.....	(X)	16,566	(X)	
36350 71	Parts for household type vacuum cleaners.....	(X)	9,283	(X)	
36350 99	Household vacuum cleaners, not specified by kind.....	(X)	2,284	(X)	702

(X) Not applicable.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR HOUSEHOLD VACUUM CLEANERS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3635-	Vacuum cleaners, household.....1963...	147	92
	.....1958...	116	96

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36B-6



preliminary  
report

INDUSTRY SERIES

Sewing machines

SIC Code 3636

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Sewing Machines Industry had total shipments valued at \$117 million, an increase of 7 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 26 percent from 1958 to a total of 7.6 thousand employees in 1963. Value added by manufacture amounted to \$98 million in 1963, an increase of 59 percent from 1958.

The Sewing Machines Industry includes establishments engaged primarily in the manufacture of sewing machines for domestic and industrial use.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE SEWING MACHINES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3636)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	96	17	7,646	51,962	5,844	12,136	36,280	98,356	30,567	117,199	2,567
1958.....	85	17	9,607	48,314	7,004	13,343	32,782	61,991	44,597	109,314	5,380
1954 <sup>3</sup> .....	82	28	12,414	56,552	9,443	19,142	40,697	70,339	38,796	114,185	3,045
1947 <sup>3</sup> .....	70	(NA)	15,305	48,484	12,647	26,095	37,926	68,681	28,880	97,011	(NA)
1939 <sup>3</sup> .....	39	(NA)	9,568	14,895	7,840	(NA)	11,157	21,096	8,611	29,707	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U.S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954, 1958 and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Sewing Machines Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Sewing Machines Industry amounted to \$117 million. Of this total, \$8 million were products primary to other industries; and \$8 million were receipts for miscellaneous activities. The industry shipments of primary products represented 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 97 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$104 million of sewing machines were shipped by all producers of these products. Of this total, \$101 million, or 97 percent, were shipped by plants classified in Industry 3636, Sewing Machines, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 94 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE SEWING MACHINES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3636)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	86	17	7,646	51,962	5,844	12,136	36,280	98,356	30,567	117,199	2,567	9,607	61,991
Middle Atlantic...	55	8	4,246	28,962	3,170	6,459	20,102	43,718	16,929	55,126	990	5,912	32,225
All other divisions.....	31	9	3,400	23,000	2,674	5,677	16,178	54,638	13,638	62,073	1,577	3,695	29,766

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—QUANTITY AND VALUE OF SEWING MACHINES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Sewing Machines Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 heads)	Value (\$1,000)	Quantity (1,000 heads)	Value (\$1,000)
3636--	Sewing machines, total.....	(X)	104,471	(X)	97,725
	Household sewing machines, including heads for sale with cabinets or cases, and heads for sale separately:				
36360 11	Electric cabinet.....	(D)	(D)	365	27,821
36360 31	Electric portable.....	(D)	(D)		
36360 71	Industrial sewing machines (except shoe sole stitching machines).....	120	47,708	75	25,874
36360 81	Sewing machine parts and attachment for household and industrial sewing machines (except cases and cabinets).....	(X)	153,734	(X)	43,091
36360 00	Sewing machines, not specified by kind.....	(X)	3,029	(X)	939

(D) Withheld to avoid disclosing figures for individual companies. (X) Not applicable.

<sup>1</sup>Includes the value of shipments of household sewing machines.



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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36B-7



preliminary  
report

INDUSTRY SERIES

Household appliances, n. e. c.

SIC Code 3639

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Household Appliances, N.E.C., Industry had total shipments valued at \$431 million, an increase of 14 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 10 percent from 1958 to a total of 13 thousand employees in 1963. Value added by manufacture amounted to \$201

million in 1963, an increase of 24 percent from 1958.

The Household Appliances, N.E.C., Industry includes establishments engaged primarily in the manufacture of household appliances, not elsewhere classified, such as hot water heaters, dishwashers, and food waste disposal units.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date.

Table 1.--GENERAL STATISTICS FOR THE HOUSEHOLD APPLIANCES, N.E.C., INDUSTRY IN THE UNITED STATES: 1963 AND 1958  
(SIC code 3639)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	112	67	13,128	81,593	9,897	19,931	54,397	201,429	232,517	431,168	6,733
1958 <sup>3</sup> .....	94	71	14,622	79,658	10,102	19,985	47,367	162,664	212,004	378,758	4,365

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees is as follows: Figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

VALUE ADDED BY MANUFACTURE

For 1958 and 1963 value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Household Appliances, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Household Appliances, N.E.C., Industry amounted to \$431 million. Of this total, \$93 million were products primary to other industries; and \$17 million were receipts for miscellaneous activities. The industry shipments of primary products represent 78

percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 79 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$414 million of household appliances, n.e.c., were shipped by all producers of these products. Of this total, \$321 million, or 78 percent, were shipped by plants classified in Industry 3639, Household Appliances, N.E.C., while the remainder was shipped by plants classified in other industries. The 1958 ratio was 83 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.



## 1963 CENSUS OF MANUFACTURES

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Table 2.--GENERAL STATISTICS FOR THE HOUSEHOLD APPLIANCES, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3639)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	112	67	13,128	81,593	9,897	19,931	54,397	201,429	232,517	431,168	6,733	14,622	162,664
Northeast.....	18	11	1,457	7,946	1,058	2,054	4,954	17,051	19,944	36,614	1,111	2,591	23,199
North Central.....	46	28	6,261	40,592	4,819	9,731	27,929	90,311	106,289	196,497	2,540	5,973	64,957
Ohio.....	9	5	266	1,376	190	391	842	6,681	5,164	11,879	(1)	582	6,761
South.....	23	15	2,347	13,887	1,913	3,899	9,714	54,673	48,101	100,699	938	2,597	31,931
West.....	25	13	3,063	19,168	2,107	4,247	11,800	39,394	58,183	97,358	2,144	3,461	42,577
California.....	17	10	2,750	17,421	1,870	3,804	10,575	34,874	54,277	89,038	2,049	3,134	40,849

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.--QUANTITY AND VALUE OF HOUSEHOLD APPLIANCES, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Household Appliances, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments.")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3639 --	Household appliances, n.e.c., total.....	.....	(X)	413,925	(X)	341,842
36391 --	Water heaters, electric.....	.....	(X)	61,408	(X)	56,849
	Electric water heaters (for permanent installation):					
	Storage type:					
36391 11	34 gallons and under.....	1,000 units..	400	13,439	401	14,898
36391 12	35-44 gallons.....	.....	321	14,358	508	29,036
36391 14	45-54 gallons.....	.....	358	17,407		
36391 15	55 gallons and over.....	.....	131	8,044	113	8,196
36391 98	Other types, including circulating and portable.....	.....	(X)	5,976	(X)	3,705
36391 00	Electric water heaters, not specified by kind.....	.....	(X)	2,184	(X)	1,014
36392 00	Water heaters, except electric:					
	Reported in census of manufactures.....	.....	(X)	142,583	(X)	153,538
	Reported on Annual Form MA-34N.....	.....	(X)	136,000	(X)	162,178
36393 --	Other household type appliances and parts.....	.....	(X)	207,811	(X)	131,095
	Dishwashing machines:					
36393 12	Portable type.....	No. of units.	783,374	38,685	397,392	54,803
36393 14	Undercounter and all other types.....	.....	664,442	84,618		
36393 31	Floor waxing and polishing machines.....	.....	1,138,116	25,816	724,455	19,489
36393 71	Food waste disposers (all sizes).....	.....	1,220,526	34,376	741,057	26,772
36393 81	Other household service machines.....	.....	(X)	12,510	(X)	24,573
36393 91	Parts and accessories for electric water heaters.....	.....	(X)	11,806	(X)	5,458
36390 00	Household appliances, n.e.c., not specified by kind.....	.....	(X)	2,123	(X)	-

- Represents zero. n.e.c. Not elsewhere classified. (X) Not applicable.

<sup>1</sup>Value shown is preliminary. Detailed product statistics will be published later this year in Current Industrial Reports Series M34N "Heating and Cooking Equipment."

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36C-1



## INDUSTRY SERIES

preliminary  
report

### Electric lamps SIC Code 3641

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Electric Lamps Industry had total shipments valued at \$580 million, an increase of 39 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 11 percent from 1958 and 6 percent from 1962 to a total of 24 thousand employees in 1963. Value added by manufacture amounted to \$366 million in 1963, an increase of 35 percent from 1958 but a decrease of 1 percent from 1962.

The Electric Lamps Industry includes establishments engaged primarily in the manufacture of electric bulbs, tubes, and related light sources. Important products of this industry include incandescent filament lamps, vapor and fluorescent lamps, photoflash and photoflood lamps, electrotherapeutic lamp units for ultra-violet and infrared radiation, and other electric light sources. Establishments primarily engaged in manufacturing glass blanks for bulbs are classified in Industry 3229; and lamp components, such as supports, filaments, lead-in wires and cold cathode fluorescent lamp electrodes in Industry 3699.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing

Table 1.—GENERAL STATISTICS FOR THE ELECTRIC LAMPS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3641)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expendi- tures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	83	50	23,851	124,485	20,850	40,983	100,849	365,578	209,158	579,809	17,146	(X)
1962.....	(NA)	(NA)	22,579	116,350	18,827	38,820	92,593	367,055	184,852	544,880	12,694	3
1961.....	(NA)	(NA)	21,569	107,675	17,595	35,982	84,018	336,172	168,031	513,186	10,738	2
1960.....	(NA)	(NA)	23,921	114,068	19,707	39,453	89,938	355,694	169,186	517,419	10,465	2
1959.....	(NA)	(NA)	22,849	109,866	18,789	39,622	87,232	339,166	165,841	497,282	10,613	1
1958.....	66	52	21,495	95,298	18,236	35,119	73,625	270,498	136,158	417,516	8,276	(X)
1957.....	66	53	21,963	78,921	19,172	36,750	63,205	216,230	111,505	330,864	8,288	(X)
1947.....	62	52	23,842	57,914	21,550	42,090	48,891	120,344	82,904	203,248	11,318	(X)
1939.....	55	(NA)	11,587	15,309	9,622	(NA)	10,689	56,257	28,571	84,828	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954 and 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Electric Lamps Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Electric Lamps Industry amounted to \$580 million. Of this total, \$32 million were products primary to other industries; and \$22 million were receipts for miscellaneous activities. The industry shipments of primary products represented 94 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio also was 94 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$549 million of electric lamps were shipped by all producers of these products. Of this total, \$526 million, or 96 percent, were shipped by plants classified in Industry 3641, Electric Lamps, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 98 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports

will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE ELECTRIC LAMPS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3641)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	83	50	23,851	124,485	20,850	40,983	100,849	365,578	209,158	579,809	17,146	21,495	270,498
Middle Atlantic....	37	21	8,773	48,155	7,298	14,705	35,604	107,464	60,393	167,325	3,704	8,249	81,745
New Jersey.....	18	10	6,432	36,640	5,237	10,451	26,128	67,803	36,531	101,743	2,056	6,143	55,263
All other divisions.....	46	29	15,078	76,330	13,552	26,278	65,245	258,114	148,765	412,484	13,442	13,246	188,753

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—VALUE OF ELECTRIC LAMPS (BULBS ONLY) SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Electric Lamps Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3641- --	Electric lamps (bulbs only), total.....	549,003	393,597
36410 10	Electric lamps (bulbs only), except cold cathode fluorescent:		
	As reported in the census of manufactures.....	546,620	390,386
	As reported on Census Quarterly Form M36B <sup>1</sup> .....	550,963	395,577
36410 63	Cold cathode fluorescent lamps for illumination and decoration, including custom built lamps, but excluding sign applications.....	2,383	3,211

<sup>1</sup>See Current Industrial Reports Series M36B "Electric Lamps" for more detailed product data.

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# 1963 CENSUS OF MANUFACTURES



MC63(P)-36C-2

INDUSTRY SERIES

preliminary  
report

Lighting fixtures

SIC Code 3642

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Lighting Fixtures Industry had total shipments valued at \$1,169 million, an increase of 41 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 15 percent from 1958 and 5 percent from 1962 to a total of 54 thousand employees in 1963. Value added by manufacture amounted to \$595 million in 1963, an increase of 50 percent from 1958 and 9 percent from 1962.

The Lighting Fixtures Industry includes establishments engaged primarily in the manufacture of lighting fixtures and equipment of any type, including electric and gas lighting fixtures; carbide, kerosene, and gasoline lamps; and metal reflectors and fittings. Establishments primarily engaged in producing glassware for lighting fixtures are classified in Major Group 32; and electric light bulbs, tubes, and related light sources in Industry 3641.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.—GENERAL STATISTICS FOR THE LIGHTING FIXTURES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3642)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,235	479	54,295	291,477	42,201	83,464	194,217	595,454	584,311	1,168,843	22,877	(X)
1962.....	(NA)	(NA)	51,914	272,202	41,112	80,132	180,250	548,710	566,879	1,107,262	15,176	5
1961.....	(NA)	(NA)	49,768	249,070	39,313	75,728	165,029	476,797	506,678	984,193	12,178	4
1960.....	(NA)	(NA)	51,775	249,249	40,971	80,627	167,247	467,989	516,254	978,015	15,194	3
1959.....	(NA)	(NA)	51,182	244,438	40,489	79,998	162,814	452,280	497,644	946,059	15,029	1
1958.....	1,181	431	47,309	215,829	36,443	71,605	143,786	397,378	419,912	826,595	14,415	(X)
1954.....	1,228	381	45,078	181,951	36,361	73,660	128,759	324,651	332,815	660,073	14,217	(X)
1947.....	1,202	(NA)	46,891	131,279	39,393	(NA)	96,291	239,191	226,231	465,422	(NA)	(X)
1939.....	568	(NA)	25,686	35,758	20,477	(NA)	23,238	64,731	59,851	124,582	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

July 1965

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(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954 and 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Lighting Fixtures Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Lighting Fixtures Industry amounted to \$1,169 million. Of this total, \$88 million were products primary to other industries; and \$40 million were receipts for miscellaneous activities. The industry shipments of primary products represent 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$1,120 million of lighting fixtures were shipped by all producers of these products. Of this total, \$1,041 million, or 93 percent, were shipped by plants classified in Industry 3642, Lighting Fixtures, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 94 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary



reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE LIGHTING FIXTURES INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3642)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,235	479	54,295	291,477	42,201	83,464	194,217	595,454	584,311	1,168,843	22,877	47,309	397,378
New England.....	73	33	4,420	22,446	3,312	6,142	14,164	43,957	39,928	79,090	1,333	3,294	26,654
Massachusetts....	40	17	2,562	11,800	1,992	3,725	8,130	22,968	21,806	44,704	660	2,032	16,734
Connecticut.....	27	12	1,409	8,425	953	1,699	4,511	15,404	14,686	25,463	( <sup>1</sup> )	890	6,390
Middle Atlantic...	517	204	17,555	86,126	14,032	27,069	58,025	176,293	174,624	349,884	4,768	15,513	120,356
New York.....	328	104	7,654	39,495	6,046	11,610	26,304	76,797	77,624	154,039	1,947	8,006	64,106
New Jersey.....	96	44	3,896	20,433	3,059	6,037	13,358	45,509	35,852	81,173	1,274	2,943	22,561
Pennsylvania....	93	56	6,005	26,198	4,927	9,422	18,363	53,987	61,148	114,672	1,547	4,564	33,689
East North Central	251	114	18,861	112,627	14,433	29,356	76,118	212,925	198,237	407,463	10,426	17,514	146,169
Ohio.....	60	28	5,192	30,071	3,745	7,518	18,972	58,320	58,406	114,301	1,495	4,768	41,833
Illinois.....	140	67	6,554	33,672	5,129	9,941	21,491	63,097	73,392	136,843	3,317	6,148	46,742
Michigan.....	22	9	1,144	6,082	922	1,844	4,361	11,159	13,960	25,198	( <sup>1</sup> )	645	7,797
West North Central	39	20	1,791	9,685	1,337	2,690	5,790	18,258	16,632	34,802	652	1,694	12,075
Missouri.....	27	17	1,610	8,683	1,188	2,382	5,130	15,549	15,742	31,186	567	1,556	10,843
South Atlantic....	55	14	2,495	13,462	1,899	3,921	8,400	36,827	44,065	81,127	1,842	1,601	17,932
Florida.....	21	5	265	1,083	206	417	740	2,048	2,751	4,783	( <sup>1</sup> )	321	1,554
East South Central	11	7	2,081	9,037	1,742	3,553	6,686	27,622	31,793	59,288	711	1,917	19,443
Pacific.....	240	75	6,108	33,173	4,696	9,273	22,018	66,469	66,964	132,213	2,534	5,305	50,025
California.....	226	71	5,523	30,297	4,316	8,513	19,948	60,960	63,038	123,106	2,302	4,917	46,310
All other divisions.....	49	12	984	4,921	750	1,460	3,016	13,103	12,068	24,976	611	471	4,724

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3.—VALUE OF LIGHTING FIXTURES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Includes value of these products reported not only by establishments classified in the Lighting Fixtures Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments".

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3642- --	Lighting fixtures.....	1,120,127	765,413
36421 10	Residential type electric fixtures (except portable): As reported in the census of manufactures.....	156,387	114,804
	As reported on Census Annual Form MA-561 <sup>2</sup> .....	151,156	(X)
36422 20	Commercial and institutional type electric fixtures: As reported in the census of manufactures.....	300,377	168,063
	As reported on Census Annual Form MA-561 <sup>2</sup> .....	298,433	(X)
36423 30	Industrial type electric fixtures: As reported in the census of manufactures.....	75,788	62,393
	As reported on Census Annual Form MA-561 <sup>2</sup> .....	74,511	(X)
36424 40	Vehicular lighting equipment, electric: As reported in the census of manufactures.....	163,833	105,970
	As reported on Census Annual Form MA-561 <sup>2</sup> .....	149,736	(X)
36425 50	Outdoor lighting equipment: As reported in the census of manufactures.....	154,764	76,308
	As reported on Census Annual Form MA-561 <sup>2</sup> .....	129,802	(X)
36426 --	Other electric and nonelectric lighting equipment (including hand portable equipment) and parts and accessories.....	84,979	68,872
36426 11	Incandescent hand portable lighting equipment, except parts: Flashlights and flashlight lanterns (one to five cells).....	20,063	13,661
36426 19	Other, such as miners' lights, emergency warning lights, generator flashlights, etc.....	5,966	3,650
36426 21	Other electric lighting equipment, including electrical discharge such as mercury vapor (other than street and highway lighting equipment), sodium vapor etc., excluding signs.....	5,315	3,621
36426 31	Other incandescent electric lighting equipment including marine markers or beacons, railway and other vehicular route lighting equipment, parts and accessories such as reflectors, etc., but excluding wire devices sold separately.....	11,064	9,309
36426 71	Parts and accessories for fluorescent lighting equipment, excluding tubes, ballasts, starting switches, and lampholders, but including reflectors, etc.....	7,538	3,118
36426 73	Other fluorescent lighting equipment, complete units, including processing and technical equipment.....	3,815	2,216
36426 81	Nonelectric lighting equipment, including parts: Kerosene and gasoline lamps and lanterns.....	3,247	6,456
36426 83	Parts and accessories for nonelectric lighting equipment, including reflectors and fittings, incandescent mantles, etc.....	6,160	7,612
36426 89	Other nonelectric lighting fixtures and equipment, complete units, including carbide lamps of all types.....	3,264	3,454
36426 91	Ultraviolet and infrared heating lamp fixtures, excluding lamp bulbs sold separately.....	1,121	1,885
36426 00	Other electric and nonelectric lighting equipment (including hand portable equipment) and parts and accessories, not specified by kind.....	7,436	11,890
36427 --	Residential type electric fixtures (portable only).....	160,607	112,541
	Incandescent portable lamps, complete: Complete with shade: Floor, bridge, and torch lamps.....	36,110	25,765
36427 21	Wall lamps, including adjustable types.....	5,322	6,664
36427 23	Table lamps.....	70,854	61,275
36427 29	Other, including boudoir.....	16,004	12,715
36427 32	Lamps sold without shades, including floor, bridge, table, etc.....	5,711	2,933
36427 61	Portable lamps (desk, etc.) fluorescent.....	10,454	3,136
36427 00	Residential type electrical fixtures (portable only) not specified by kind.....	16,149	(X)
36420 00	Lighting fixtures, not specified by kind.....	43,452	56,443

(X) Not applicable.

<sup>1</sup>In the 1958 Census of Manufactures product class 36427 was part of product class 36421. Accordingly, the 1958 value for portable residential type electrical fixtures, not specified by kind, are included in product code 3642110.

<sup>2</sup>See Current Industrial Reports Series M361, "Electric Lighting Fixtures," for more detailed product statistics.

# 1963 CENSUS OF MANUFACTURES

MC63(P)-36C-3



## INDUSTRY SERIES

**preliminary  
report**

### Current carrying devices

SIC Code 3643

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Current-Carrying Devices Industry shipped products valued at \$620 million, an increase of 24 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed no change from 1958, totaling 36 thousand employees in 1963. Value added by manufacture amounted to \$361 million in 1963, an increase of 20 percent from 1958.

The Current-Carrying Devices Industry includes establishments engaged primarily in the manufacture of current-carrying wiring devices. Important products of this industry include attachment plugs and caps, convenience outlets, lamp sockets and receptacles, snap switches, conductor connectors, overhead trolley line material, rail bonds for both propulsion and signal circuits, lightning arrestors, and other lightning protective equipment.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.--GENERAL STATISTICS FOR THE CURRENT-CARRYING DEVICES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3643)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>2</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	448	180	35,762	178,187	27,464	54,025	116,909	360,573	255,973	619,575	14,197
1958 <sup>2 3</sup> .....	422	160	35,682	155,976	26,556	51,612	100,229	300,836	197,905	501,309	9,629

<sup>1</sup>Revised.

<sup>2</sup>Includes expenditures for plants under construction but not in operation.

<sup>3</sup>Data for 1958 include establishments primarily engaged in the manufacture of electronic connectors. For 1963 these establishments have been included in SIC 3679, "Electronic Components, N.E.C." Accordingly, data for 1959-1962 as previously published in the annual survey of manufactures are subject to significant revision.

<sup>4</sup>A revision in the definition of this industry was made in the 1957 Standard Industrial Classification so that data for this industry are not available for earlier years.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included in this report.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958 and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

### VALUE ADDED BY MANUFACTURE

For 1958 and 1963 value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Current-Carrying Devices Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for

contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Current-Carrying Devices Industry amounted to \$620 million. Of this total, \$126 million were products primary to other industries; and \$35 million were receipts for miscellaneous activities. The industry shipments of primary products represent 78 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 85 percent (Revised).

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$550 million of current-carrying devices were shipped by all producers of these products. Of this total, \$459 million, or 83 percent, were shipped by plants classified in Industry 3643, Current-Carrying Devices, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 79 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses



## 1963 CENSUS OF MANUFACTURES

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of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to

cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE CURRENT-CARRYING DEVICES INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

Geographic area	1963											1958 <sup>1</sup>	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	448	180	35,762	178,187	27,464	54,025	116,909	360,573	255,973	619,575	14,197	35,692	300,836
New England.....	77	39	12,347	61,182	9,741	19,073	42,209	116,536	90,712	207,934	3,627	12,250	96,667
Massachusetts...	37	16	3,048	15,119	2,245	4,474	9,993	28,751	23,805	52,371	1,320	3,317	25,120
Connecticut.....	28	15	5,663	31,452	4,361	8,639	21,473	62,697	38,852	103,007	1,862	6,995	62,627
Middle Atlantic...	150	58	11,775	54,628	9,405	18,183	37,746	112,721	88,332	204,638	5,211	10,131	79,871
New York.....	85	33	6,984	32,408	5,604	10,808	22,538	54,989	47,267	103,010	2,870	6,171	42,098
New Jersey.....	35	10	2,474	11,438	2,015	3,895	8,143	21,366	19,529	43,781	1,340	2,136	15,663
Pennsylvania....	30	15	2,317	10,782	1,786	3,480	7,065	36,366	21,536	57,847	1,001	1,824	22,110
East North Central	105	48	8,692	46,049	6,189	12,420	27,409	90,009	53,216	142,371	3,015	8,832	81,154
Illinois.....	36	22	4,927	25,948	3,325	6,532	14,182	54,353	23,320	77,258	1,578	6,509	58,889
West North Central	23	10	1,293	7,876	877	1,869	4,272	18,680	12,487	30,979	1,436	893	6,915
Missouri.....	12	4	996	6,448	643	1,411	3,308	9,737	9,155	18,665	( <sup>2</sup> )	830	6,628
South.....	23	7	505	2,173	412	818	1,526	9,115	4,714	13,879	( <sup>2</sup> )	113	905
West.....	70	18	1,150	6,279	840	1,662	3,747	13,512	6,512	19,774	545	3,473	28,677
California.....	64	17	1,113	6,081	813	1,610	3,640	13,116	6,325	19,191	535	3,450	28,383

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Data for 1958 include establishments primarily engaged in the manufacture of electronic connectors. For 1963, these establishments have been included in SIC 3679, "Electronic Components, N.E.C."

<sup>2</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3.—VALUE OF CURRENT-CARRYING DEVICES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Current-Carrying Wiring Devices Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3643- --	Current-carrying devices, total.....	550,239	<sup>1</sup> 442,944
36430 00	Current-carrying wiring devices: As reported in the census of manufactures.....	550,239	<sup>1</sup> 442,944
	As reported on Census Annual Form MA-36K.....	<sup>r2</sup> 532,000	(X)

(X) Not applicable. <sup>r</sup>Revised.

<sup>1</sup>Differs from previously published data. Electronic connectors valued at \$66,436 thousand are now included in Industry 3679, Electronic Components, N.E.C., rather than this industry.

<sup>2</sup>Preliminary revisions have been made based on a reconciliation between the Census of Manufactures and Current Industrial Reports Series, M36K, "Wiring Devices and Supplies." The following represent sizeable revisions made to selected products on M36K. Additional revisions of lesser significance will be shown in the 1964 M36K report.

Product	Quantity (Billion units)	Value (\$1,000)
Metal contacts, precious and other.....	4.7	57,000
Wire connectors:		
Solderless (including industrial and service).....	(X)	88,000
Other (including solder lugs and splicing sleeves)...	(X)	44,000
Other current-carrying wiring devices, including rosettes, etc.....	(X)	50,000

(X) Not applicable.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-36C-4



INDUSTRY SERIES

preliminary  
report

## Noncurrent carrying devices

SIC Code 3644

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Noncurrent-Carrying Devices Industry had total shipments valued at \$479 million, an increase of 16 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 3 percent from 1958 but a decrease of 3 percent from 1962 to a total of 20 thousand employees in 1963. Value added by manufacture amounted to \$254 million in 1963, an increase of 18 percent from 1958 and 10 percent from 1962.

The Noncurrent-Carrying Devices Industry includes establishments engaged primarily in the

manufacture of noncurrent-carrying wiring devices. Important products of this industry include conduits and fittings, electrical insulators and insulation materials, except porcelain insulators (Industry 3264) and glass insulators (Industry 3229); outlet, switch and fuse boxes; and pole line hardware.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE NONCURRENT-CARRYING DEVICES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3644)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	182	103	20,290	123,576	14,753	30,413	79,602	253,775	226,497	478,912	7,907	(X)
1962.....	(NA)	(NA)	20,903	121,903	15,181	30,269	78,614	229,717	221,016	452,249	10,276	3
1961.....	(NA)	(NA)	20,926	120,090	15,181	29,998	77,242	230,075	214,106	437,368	11,641	3
1960.....	(NA)	(NA)	20,111	109,373	14,578	28,347	71,140	221,433	185,351	396,745	9,964	2
1959.....	(NA)	(NA)	20,763	113,557	15,331	31,074	75,509	237,294	204,435	436,441	9,567	1
1958.....	150	93	19,722	101,382	14,574	28,741	67,772	214,607	193,003	413,758	9,976	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was made in the 1957 Standard Industrial Classification so that data for this industry are not available for earlier years.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of non-production workers for one payroll period (usually in October). The figures for production workers, 1954, and 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Noncurrent-Carrying Devices Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Noncurrent-Carrying Devices Industry amounted to \$479 million. Of this total, \$106 million were products primary to other industries; and \$23 million were receipts for miscellaneous activities. The industry shipments of primary products represent 77 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 78 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$438 million of noncurrent-carrying devices were shipped by all producers of these products. Of this total, \$350 million, or 80 percent, were shipped by plants classified in Industry 3644, Noncurrent-Carrying Devices, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 89 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965.

## 1963 CENSUS OF MANUFACTURES

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through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE NONCURRENT-CARRYING DEVICES INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3644)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)	All employ- ees, number	Value added by manufac- ture (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	182	103	20,290	123,576	14,753	30,413	79,602	253,775	226,497	478,912	7,907	19,722	214,607
Middle Atlantic.....	56	32	8,294	50,506	5,778	12,233	31,351	104,536	88,760	192,603	3,254	9,276	99,891
New York.....	22	11	3,829	23,449	2,568	5,097	14,108	44,234	26,424	71,329	1,304	3,777	35,255
New Jersey.....	12	5	1,287	8,454	750	1,617	4,426	21,186	10,632	31,387	784	1,169	13,546
Pennsylvania....	22	16	3,178	18,603	2,460	5,519	12,817	39,116	51,704	89,887	1,166	4,330	51,090
Pacific.....	32	12	1,308	8,282	1,064	2,017	5,761	18,563	20,321	38,673	531	1,117	13,968
All other divisions.....	94	59	10,688	64,788	7,911	16,163	42,490	130,676	117,416	247,636	4,122	9,329	100,748
Connecticut.....	9	5	940	5,530	747	1,589	3,834	11,316	6,416	17,822	( <sup>1</sup> )	730	6,880
Ohio.....	16	11	1,805	11,948	1,226	2,564	7,328	23,965	15,404	39,752	( <sup>1</sup> )	1,427	14,539

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3.—VALUE OF NONCURRENT-CARRYING WIRING DEVICES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Noncurrent-Carrying Devices Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3644- --	Noncurrent-carrying wiring devices, total.....	438,366	341,570
36441 00	Pole-line and transmission hardware:		
	As reported in the census of manufactures.....	97,901	81,178
	As reported on Census Annual Form MA-36K <sup>1</sup> .....	95,572	(X)
36442 00	Electric conduit and conduit fittings:		
	As reported in the census of manufactures.....	r 241,667	201,266
	As reported on Census Annual Form MA-36K.....	r 241,000	(X)
36443 00	Other noncurrent-carrying wiring devices and supplies:		
	As reported in the census of manufactures.....	r 92,086	59,126
	As reported on Census Annual Form MA-36K.....	r 91,000	(X)
36440 00	Noncurrent-carrying wiring devices, not specified by kind.....	6,712	( <sup>3</sup> )

(X) Not applicable. <sup>r</sup> Revised.

<sup>1</sup>See Current Industrial Reports Series M36K "Wiring Devices and Supplies" for more detailed product data.

<sup>2</sup>Preliminary revisions have been made based on a reconciliation between the Census of Manufactures and Current Industrial Reports Series M36K, "Wiring Devices and Supplies." The following represent sizable revisions made to selected products on M36K. Additional revisions of lesser significance will be shown in the 1964 M36K report:

Product	Unit of measure	Quantity	Value (\$1,000)
Rigid conduit (standard weight), including couplings, nipples, bends and elbows:			
Steel.....	Short tons	251,000	66,000
Other.....	do.....	28,000	20,000
Electrical metallic tubing (thin wall conduit), including couplings, nipples, bends, and elbows:			
Steel.....	do.....	158,000	42,000
Other.....	do.....		
Flexible steel conduit.....	1,000 ft..	90,000	7,000
Cast metal boxes, covers, and accessories (including cast conduit boxes, but excluding fittings)...		(X)	48,000
Nonmetallic boxes and covers.....			

<sup>3</sup>1958 data for "noncurrent-carrying wiring devices, not specified by kind" are included with "current-carrying wiring devices, not specified by kind," product code 3643000.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36D-1



INDUSTRY SERIES

preliminary  
report

## Radio and TV receiving sets

SIC Code 3651

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Radio and TV Receiving Sets Industry had total shipments valued at \$2,288 million, an increase of 48 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 23 percent from 1958 but a decrease of 1 percent from 1962 to a total of 82 thousand employees in 1963. Value added by manufacture amounted to \$933 million in 1963, an

increase of 57 percent from 1958 and 7 percent from 1962.

The Radio and TV Receiving Sets Industry includes establishments engaged primarily in the manufacture of electronic equipment for home entertainment. This industry also includes establishments primarily engaged in manufacturing public address systems, and music distribution apparatus except records. Establishments primarily engaged in manufacturing records are classified in Industry 3652; radio and television receiving type tubes in Industry 3671; and television receiving type cathode ray tubes in Industry 3672.

This report does not include figures for administrative offices, warehouses, garages, or

Table 1.—GENERAL STATISTICS FOR THE RADIO AND TV RECEIVING SETS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3651)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	346	177	81,830	415,256	67,003	129,369	289,824	933,484	1,401,484	2,287,605	30,533	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	82,951	408,332	66,052	127,222	273,350	868,958	1,306,602	2,128,875	27,096	3
1961 <sup>2</sup> .....	(NA)	(NA)	76,837	369,982	59,553	112,093	239,326	728,832	1,105,866	1,849,180	(28,670)	2
1960 <sup>2</sup> .....	(NA)	(NA)	71,743	340,600	56,269	108,463	222,348	694,336	1,036,042	1,719,337	19,594	2
1959 <sup>2</sup> .....	(NA)	(NA)	74,874	339,395	60,168	116,187	231,738	727,108	1,079,111	1,781,133	16,610	1
1958 <sup>3</sup> .....	234	144	66,505	292,664	52,047	100,487	196,565	593,953	936,314	1,548,006	13,323	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that comparable data for prior years are not available.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

#### VALUE ADDED BY MANUFACTURE

For 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Radio and TV Receiving Sets Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Radio and TV Receiving Sets Industry amounted to \$2,288 million. Of this total, \$288 million were products primary to other industries; and \$58 million were receipts for miscellaneous activities. The industry shipments of primary products represent 87 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$2,055 million of radio and TV receiving sets were shipped by all producers of these products. Of this total, \$1,942 million, or 94 percent, were shipped by plants classified in Industry 3651, Radio and TV Receiving Sets, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 90 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965.



through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE RADIO AND TV RECEIVING SETS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3651)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	346	177	81,830	415,256	67,003	129,369	289,824	933,484	1,401,484	2,287,605	30,533	66,505	593,953
Northeast.....	153	75	23,693	124,219	18,288	34,907	81,310	259,278	351,992	599,608	5,322	22,446	191,692
New York.....	106	52	13,710	76,861	9,993	19,179	46,962	163,592	186,486	346,243	3,758	10,809	110,876
East North Central	94	61	45,969	233,185	39,094	76,012	174,080	522,378	866,522	1,361,434	19,757	36,616	340,766
Illinois.....	58	40	29,150	145,007	24,749	47,912	105,946	310,277	545,402	836,608	12,155	21,314	206,764
West North Central	14	10	2,101	8,719	1,708	3,310	6,051	15,543	26,578	41,543	( <sup>1</sup> )	1,510	8,593
South and West....	85	31	10,067	49,133	7,913	15,140	28,383	136,285	156,392	285,020	5,196	5,933	52,902

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—VALUE OF RADIO AND TV RECEIVING SETS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Radio and TV Receiving Sets Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3651- --	Radio and television receiving sets, except communications types.....	2,055,488	<sup>1</sup> 1,481,575
36511 10	Household and automobile radios, and radio-phonograph combinations:		
	As reported in the census of manufactures.....	539,879	<sup>2</sup> 344,892
	As reported in Census Annual Form MA-36M <sup>3</sup> .....	516,387	<sup>2</sup> 343,662
36512 20	Household television receivers, including television combinations:		
	As reported in the census of manufactures.....	1,079,668	726,595
	As reported on Census Annual Form MA-36M <sup>3</sup> .....	1,057,791	691,242
36513 --	Recorders, audio amplifiers, phonographs, tuners, speaker systems, and other audio equipment and accessories.....	423,531	<sup>1</sup> 2409,445
36513 20	Phonographs and record players:		
	As reported in the census of manufactures.....	178,866	<sup>2</sup> 204,334
	As reported on Census Annual Form MA-36M <sup>3</sup> .....	174,651	<sup>2</sup> 204,334
36513 30	Recorders, tuners, and other home-type electronic equipment for sale separately:		
	As reported in the census of manufactures.....	r 4 116,121	<sup>1</sup> 83,267
	As reported on Census Annual Form MA-36M <sup>3</sup> .....	108,000	<sup>1</sup> 83,267
36513 51	Loudspeakers, speaker systems:		
	As reported in the census of manufactures.....	69,798	63,714
	As reported on Census Annual Form MA-36M <sup>3</sup> .....	69,000	(X)
36513 55	Microphones:		
	As reported in the census of manufactures.....	18,868	11,763
	As reported on Census Annual Form MA-36M <sup>3</sup> .....	18,000	(X)
36513 60	Home-type electronic kits to be assembled by consumer for radio receivers, tuners, amplifiers, and other audio equipment:		
	As reported in the census of manufactures.....	14,544	13,326
	As reported on Census Annual Form MA-36M <sup>3</sup> .....	14,000	(X)
36513 70	Chassis for home-type radio receivers, for sale separately:		
	As reported in the census of manufactures.....	( <sup>6</sup> )	1,311
	As reported on Census Annual Form MA-36M <sup>3</sup> .....	( <sup>6</sup> )	1,358
36513 80	Chassis for home-type television receivers, for sale separately:		
	As reported in the census of manufactures.....	r 4 <sup>6</sup> 9,225	4,702
	As reported on Census Annual Form MA-36M <sup>3</sup> .....	<sup>6</sup> 9,000	2,916
36513 90	Other commercial sound equipment, except broadcast, including complete public address systems, music distribution apparatus, etc.:		
	As reported in the census of manufactures.....	9,800	19,064
	As reported on Census Annual Form MA-36M <sup>3</sup> .....	7,000	(X)
36513 00	Recorders, audio amplifiers, audio equipment, etc., not specified by kind..	6,309	7,964
36510 00	Radio and television receiving sets, not specified by kind.....	12,410	643

(X) Not applicable. <sup>r</sup>Revised.

<sup>1</sup>Figure differs from that previously published for 1958. TV tuners (\$34,721) are classified under Product code 3662620 in 1963.

<sup>2</sup>Figure differs from that previously published for 1958. Phonographs and record players (Product code 3651320) were published with household and automobile radios, and radio-phonograph combinations (3651110) in 1958.

<sup>3</sup>See Current Industrial Reports Series M36M "Home Type Radios, TV's, etc." for more detailed product data.

<sup>4</sup>Figures represent a preliminary revision from that previously published in Current Industrial Reports Series M36M, "Home-Type Radios, TV's, etc.," for 1963. The revision is based on a reconciliation between the census of manufactures and the M36M series. Detailed revisions for 1963 will be published later this year as part of the 1964 M36M Current Industrial Reports release.

<sup>5</sup>Value shown is preliminary. Detailed product statistics will be published later this year in Current Industrial Reports Series M36N, "Selected Electronic and Associated Products."

<sup>6</sup>In 1963, statistics on chassis for home-type radio receivers, for sale separately, are combined with chassis for home-type television receivers, for sale separately, in order to avoid disclosing figures of individual companies.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36D-2



## INDUSTRY SERIES

preliminary  
report

### Phonograph records

SIC Code 3652

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Phonograph Records Industry had total shipments valued at \$178 million, an increase of 20 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 29 percent from 1958, to a total of 10 thousand employees in 1963. Value added by manufacture amounted to \$123 million in 1963, an increase of 32 percent from 1958.

The Phonograph Records Industry includes establishments engaged primarily in the manufacture of phonograph records and pre-recorded tape.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE PHONOGRAPH RECORDS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3652)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963.....	164	56	9,609	47,785	7,565	14,996	33,199	122,695	55,055	178,386	8,530
1958.....	94	53	7,421	33,381	5,858	12,158	23,739	93,079	58,704	148,731	4,011
1954 <sup>2</sup> .....	143	34	6,152	23,312	4,740	9,451	15,685	58,689	33,849	92,546	2,992
1947 <sup>2</sup> .....	111	(NA)	10,045	29,193	8,246	17,595	22,840	75,660	38,951	110,184	(NA)
1939 <sup>2</sup> .....	24	(NA)	(NA)	(NA)	926	(NA)	1,128	6,424	3,003	9,427	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>Data for Alaska and Hawaii are not included.

January 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic

importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Phonograph Records Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Phonograph Records Industry amounted to \$178 million. Of this total, \$2 million were products primary to other industries; and \$3 million were receipts for miscellaneous activities. The industry shipments of primary products represented 99 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 97 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$178 million of phonograph records were shipped by all producers of these products. Of this total, \$174 million, or 97 percent were shipped by plants classified in Industry 3652, Phonograph Records, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 98 percent.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries, and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities



(contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will

be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE PHONOGRAPH RECORDS INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3692)

Division and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	163	56	9,609	47,785	7,565	14,996	33,199	122,695	55,055	178,386	8,530	7,421	93,079
Northeast.....	73	31	4,932	24,838	3,910	7,657	17,242	49,807	30,876	81,159	2,689	4,302	47,116
New York.....	32	7	891	4,618	738	1,452	3,338	4,923	4,499	9,447	1,136	681	3,286
New Jersey.....	25	15	2,317	10,610	1,905	3,605	7,794	33,370	15,485	48,730	935	1,466	16,756
East North Central	19	9	2,775	13,645	2,144	4,338	9,219	48,651	14,448	62,706	1,787	1,709	33,110
Illinois.....	9	4	337	1,514	283	568	1,135	2,435	1,627	4,076	( <sup>1</sup> )	195	890
South and West....	69	15	1,854	9,011	1,475	2,931	6,509	26,714	9,504	33,876	5,131	1,410	12,847
California.....	48	12	1,551	7,941	1,215	2,459	5,673	20,580	7,332	28,294	4,336	1,370	12,455

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3A.--QUANTITY AND VALUE OF PHONOGRAPH RECORDS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Phonograph Records Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	1963			1958		
			Production for all purposes (quantity)	Total shipments including inter-plant transfers		Production for all purposes (quantity)	Total shipments including inter-plant transfers	
				Quantity	Value (\$1,000)		Quantity	Value (\$1,000)
3652 ---	Phonograph records, record blanks, and prerecorded tapes, total.....	.....	(X)	(X)	178,410	(X)	(X)	136 165
	Disc records (except electrical transcriptions):							
36520 22	45 r.p.m. - for own label.....	1,000.....	99,018	71,592	16,046	82,835	70,629	19,509
36520 24	45 r.p.m. - on contract basis for others.....	...do.....	(X)	110,689	12,552	(X)	114,478	13,382
	33 1/3 r.p.m. for own label:							
36520 31	Stereophonic.....	...do.....	59,615	31,941	35,134	} 71,259	59,900	70,972
36520 33	Monaural.....	...do.....	135,161	118,719	40,682			
	33 1/3 r.p.m. - on contract basis for others:							
36520 35	Stereophonic.....	...do.....	(X)	39,795	21,002	(X)	} 42,741	15,709
36520 37	Monaural.....	...do.....	(X)	35,756	22,796	(X)		
36520 61	Other speeds, including 78 r.p.m. and electrical transcriptions of all speeds.....	...do.....	15,803	23,748	12,049	22,799	40,218	8,503
36520 81	Prerecorded tapes.....	1,000 reels	1,442	1,340	3,849	375	339	1,285
36520 91	Record blanks (disc type and other).....	.....	(X)	(X)	5,182	(X)	(X)	4,196
36520 00	Phonograph records, not specified by kind.....	.....	(X)	(X)	9,118	(X)	(X)	2,609

(X) Not applicable.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR PHONOGRAPH RECORDS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Index (1954 = 100)	
		Production	Unit value
3652	Phonograph records.....1963...	532	49
	.....1958...	247	75

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36D-3

INDUSTRY SERIES

preliminary  
report

## Telephone; telegraph apparatus

SIC Code 3661

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Telephone; Telegraph Apparatus Industry had total shipments valued at \$1,704 million, an increase of 34 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 4 percent from 1958 but decreased 11 percent from 1962 to a total of 89 thousand employees in 1963. Value added by manufacture amounted to \$985 million in 1963, an

increase of 33 percent from 1958 but a decrease of 4 percent from 1962.

The Telephone; Telegraph Apparatus Industry includes establishments engaged primarily in the manufacture of wire and wireless telephone and telegraph equipment, and parts especially designed for telephone and telegraph use.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE TELEPHONE; TELEGRAPH APPARATUS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3661)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials <sup>1</sup>	Value of shipments <sup>1</sup>	Capital expend- itures, new <sup>2</sup>	Standard error of estimate (percent) for number of employees column <sup>3</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	89	55	89,241	552,778	63,809	122,377	357,356	985,237	702,337	1,704,344	55,119	(X)
1962.....	(NA)	(NA)	98,674	620,722	68,196	136,018	377,974	1,024,651	794,666	1,883,602	77,372	3
1961.....	(NA)	(NA)	92,237	562,195	62,441	124,155	339,057	1,004,141	690,584	1,680,375	65,327	2
1960.....	(NA)	(NA)	87,488	529,737	61,092	123,994	329,534	845,918	629,361	1,484,464	78,231	2
1959.....	(NA)	(NA)	80,383	464,099	56,106	111,772	286,906	797,960	527,096	1,295,182	(71,997)	1
1958.....	95	55	85,544	460,499	55,547	107,833	275,071	740,855	521,030	1,276,242	103,517	(X)
1954.....	74	55	64,663	300,589	43,717	84,627	184,124	500,196	(NA)	(NA)	22,144	(X)
1947.....	90	53	76,072	258,567	53,630	108,687	167,488	384,417	(NA)	(NA)	39,280	(X)
1939.....	(NA)	(NA)	(NA)	(NA)	14,433	(NA)	26,977	98,715	(NA)	(NA)	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>The value of shipments and cost of materials for this industry include extensive duplication arising from shipments between establishments in the same industry classifications. For further explanation see text under "Value of Shipments."

<sup>2</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>3</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

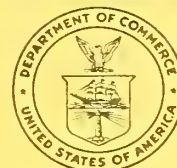
<sup>4</sup>For 1958, a number of small establishments (under 20 employees) may have been misclassified in Industry 3661: Telephone and Telegraph Apparatus because of insufficient product information. Although this has a significant effect on the number of establishments for this industry it has virtually no effect on any of the other statistics, i.e., number of employees, salaries and wages, value added, etc. It is estimated that the effect on these principal statistics is less than 1 percent.

<sup>5</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954 and 1958-1963 are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

Data on cost of materials and value of shipments of the Telephone; Telegraph Apparatus Industry include extensive duplication resulting from the transfer of products such as telephone and telegraph components to establishments producing complete telephone and telegraph equipment. The value of such shipments are duplicated in the total value of shipments. A corresponding duplication enters into the total cost of materials. The data shown for value added by manufacture (value of shipments less cost of materials, etc.) avoid this duplication.

In view of the duplication in value of shipments, the exact "primary product specialization ratio" and the exact "coverage ratio" for this industry have not been computed.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted

every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE TELEPHONE; TELEGRAPH APPARATUS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3661)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	89	55	89,241	552,778	63,809	122,377	357,356	985,237	702,337	1,704,344	55,119	85,544	740,855
Northeast.....	35	20	26,289	163,741	19,572	37,728	111,274	250,342	240,330	507,897	18,983	28,218	225,366
North Central.....	29	23	50,681	315,773	35,384	67,817	200,751	588,686	368,973	962,686	29,592	50,334	451,767
South and West....	25	12	12,271	73,264	8,853	16,832	45,331	146,209	93,034	233,761	6,544	6,992	63,722

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—QUANTITY AND VALUE OF TELEPHONE AND TELEGRAPH APPARATUS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Telephone; Telegraph Apparatus Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3661- --	Telephone and telegraph apparatus, total.....	.....	(X)	1,532,147	(X)	1,138,878
36611 --	Telephone switching and switchboard equipment.....	.....	(X)	493,619	(X)	427,633
36611 11	Telephone switchboard (central office and PBX subscriber A and B, trunk and toll).....	.....	(X)	96,725	(X)	62,459
36611 53	Dial automatic telephone switching equipment (central office, PBX, and toll) excluding electronic switching equipment.....	.....	(X)	378,866	(X)	365,174
36611 55	Electronic telephone switching equipment (central office, PBX, and toll).....	.....	(X)	16,527	(X)	-
36611 00	Telephone switching and switchboard equipment, not specified by kind.....	.....	(X)	1,501	-	-
36612 --	Other telephone and telegraph (wire) apparatus, equipment, and components.....	.....	(X)	1,038,528	(X)	704,275
	Telephone carrier equipment and repeater equipment (including open-wire and cable transmission):					
36612 13	Carrier equipment.....	.....	(X)	223,310	(X)	140,298
36612 15	Repeater equipment.....	.....				
36612 31	Telephone instrument sets (transmitters and receivers with or without dial, for subscriber use only).....	Number of sets..	8,534,246	120,393	6,933,767	101,725
36612 61	Other telephone apparatus and equipment, including components.....	.....	(X)	572,914	(X)	370,164
	Telegraph (wire) apparatus equipment, and components, including military:					
36612 73	Teleprinter units (a unit is interpreted as a perforator, a reperforator, a transmitting unit, a receiving unit, a teleprinter whether it be page or tape printer sending or receiving or both. Such units combined in one case or housing are considered separate units).....	Number of units..	(X)	111,274	(X)	92,088
36612 75	Telegraph switching equipment.....	...do.....				
36612 77	Telegraph carrier systems.....	...do.....				
36612 79	All other telegraph apparatus, equipment and components, including facsimile.....	...do.....				
36612 81	Data sets (digital or analog).....	Number of sets..	13,621	9,428	(NA)	(NA)
36612 00	Other telephone and telegraph (wire) apparatus, equipment and components, not specified by kind.....	.....	(X)	1,209	-	-
36610 00	Telephone and telegraph apparatus, not specified by kind.....	.....	-	-	(X)	6,970

- Represents zero. (NA) Not available. (X) Not applicable.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36D-4



INDUSTRY SERIES

## Radio, TV communications equipment

SIC Code 3662

preliminary  
report

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Radio, TV Communications Equipment Industry had total shipments valued at \$7,071 million, according to preliminary results obtained from the 1963 census. Average employment in this industry totaled 385 thousand employees and value added by manufacture amounted to \$4,279 million in 1963.

The Radio, TV Communications Equipment Industry includes establishments engaged primarily in the manufacture of (1) radio and television broadcasting equipment; (2) electric communication equipment and parts, except telephone and telegraph; (3) electronic field detection apparatus, light and heat emission operating apparatus, object detection apparatus and navigational electronic equipment, and aircraft and missile control systems; and (4) other electric and electronic communication and signaling products, not elsewhere classified. Establishments primarily engaged in manufacturing transmitting tubes are classified in Industry 3673.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years.

Establishments primarily manufacturing such individual instruments as those used for indicating air speed, rate-of-climb, angle-of-yaw, and similar flight characteristics, and gyroscopes

which are sold separately, are classified in Industry 3811, "Scientific Instruments." Establishments primarily engaged in providing complete instrumentation systems (for navigation, guidance, and check-out, etc.), in one package are classified in Industry 3662, "Radio, TV Communications Equipment." During the period 1958-1963 some of the large establishments which formerly manufactured individual instruments, and therefore were classified in Industry 3811, began shipping complete navigational and guidance systems as their major products. These establishments have been reclassified into Industry 3662 for the 1963 Census of Manufactures.

However, it has not been possible to revise the annual survey of manufactures data for the years 1959-1962, inclusive, nor the 1958 census information. It is known that several of the plants shifted from the production of instruments to complete systems during this period but remained classified by census in the Instruments Industry, 3811. Sometimes the change was abrupt and complete whereas in other instances the transition was a gradual one with both types of output continuing for a while. There was inadequate provision for systems in the product inquiries for the 1958 census and some respondents reported their output as instruments for lack of a better classification. It has not proven feasible for respondents at this time to identify the proportion of earlier years' output which consisted of systems rather than instrumentation.

This misclassification of systems and instruments was brought to light by the initiation by the Census Bureau of detailed commodity surveys in the fields of electronic products and instrumentation. The electronic and associated products report (MA-36N) was started covering the year 1961 and the instruments series (MA-38B) was broadened for 1963 to encompass most types of instruments following an introductory report for 1961 and 1962

August 1965

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covering principally industrial process instruments and test and measuring equipment. Annual statistics from both reports are published in the Current Industrial Reports publications of the Census Bureau.

Therefore, a "statistical bridge" table has been prepared and included in table 1 of this report. That "bridge" presents general statistics for Industries 3811 and 3662, in combination. In view of the above, the annual data for 1958-1963 from the census and annual survey of manufactures are comparable only when Industries 3662 and 3811 are taken in combination. Accordingly, tables 1 and 2A show separate figures for Industry 3662 only for the year 1963. Combined data for industries 3662 and 3811 are also shown in table 1 for the 1958-1963 period and geographically for 1958 and 1963 in table 2B.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for all employees for 1963, represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers for 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

#### VALUE ADDED BY MANUFACTURE

For 1963, value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure

available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Radio, TV Communications Equipment Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Radio, TV Communications Equipment Industry amounted to \$7,071 million. Of this total, \$1,203 million were products primary to other industries; and \$731 million were receipts for miscellaneous activities. The industry shipments of primary products represent 81 percent of the total manufactured product shipments, primary and secondary.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$5,984 million of radio and TV communications equipment were shipped by all producers of these products. Of this total, \$5,137 million, or 86 percent, were shipped by plants classified in Industry 3662, Radio, TV Communications Equipment, while the remainder was shipped by plants classified in other industries.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1, 2A and 2B are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1, 2A and 2B) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965



through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.



Table 1.—GENERAL STATISTICS FOR THE RADIO, TV COMMUNICATION EQUIPMENT AND SCIENTIFIC INSTRUMENTS INDUSTRIES IN THE UNITED STATES FOR SELECTED YEARS

SIC code	Year	(SIC codes 3662 and 3811)										Standard error of estimate (percent) or number of employees column <sup>1</sup>	
		Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)		Capital expendi- tures, new (\$1,000)
		Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
3662	Radio, TV communication equipment: 1963.....	1,113	619	384,913	2,783,261	203,475	415,290	1,215,913	4,279,206	2,976,090	7,071,218	137,791	(X)
3662 3811	Radio, TV communication equipment and scientific instruments: 1963.....	1,707	832	417,994	2,991,629	225,564	460,062	1,335,672	4,635,866	3,175,748	7,621,594	153,446	4
		(NA)	(NA)	377,091	2,704,223	202,849	428,845	1,330,356	4,150,443	2,909,964	6,920,768	137,752	2
		(NA)	(NA)	335,888	2,307,341	178,957	376,886	1,055,473	3,424,950	2,631,547	6,019,130	128,654	2
		(NA)	(NA)	284,515	1,871,437	162,781	350,062	923,915	2,851,948	2,352,022	5,099,341	113,547	1
		(NA)	(NA)	261,794	1,514,234	145,892	306,214	793,018	2,369,043	2,052,283	4,322,923	94,050	(X)
	1958.....	1,084	471	206,045	1,209,644	125,043	251,650	620,053	2,001,468	1,568,903	3,578,126	76,271	(X)

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

## 1963 CENSUS OF MANUFACTURES

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Table 2A.—GENERAL STATISTICS FOR THE RADIO, TV COMMUNICATION EQUIPMENT INDUSTRY, BY GEOGRAPHIC AREAS: 1963

(SIC code 3662)

Geographic area	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
United States, total.....	1,113	619	384,913	2,783,261	203,475	415,290	1,215,913	4,279,206	2,976,090	7,071,218	137,791
New England.....	135	86	40,253	283,627	21,401	44,450	129,027	437,738	344,388	780,474	9,164
New Hampshire.....	13	8	3,191	20,640	2,176	4,469	12,570	25,982	26,709	54,072	709
Middle Atlantic.....	339	197	126,497	958,107	68,749	138,161	448,442	1,345,575	838,507	2,225,386	37,335
North Central.....	193	92	57,940	372,883	29,915	61,555	152,530	617,254	546,997	1,187,541	18,993
Missouri.....	10	5	836	4,966	418	838	1,969	7,781	4,739	11,856	(1)
South.....	154	92	61,598	423,113	33,059	67,879	172,358	705,873	441,970	1,137,003	27,746
Texas.....	31	15	8,843	61,978	4,439	10,178	28,506	135,486	63,152	184,909	8,988
West.....	292	152	98,625	745,531	50,351	103,245	313,556	1,172,766	804,228	1,740,814	44,553

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 2B. GENERAL STATISTICS FOR THE RADIO, TV COMMUNICATION EQUIPMENT AND SCIENTIFIC INSTRUMENTS INDUSTRIES BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC codes 3662 and 3811)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,707	832	417,994	2,991,629	225,564	460,062	1,335,672	4,635,866	3,175,748	7,621,594	153,446	206,045	2,001,468
New England.....	201	110	43,718	305,137	23,599	48,900	140,693	472,460	361,057	831,918	11,316	19,315	198,332
Middle Atlantic...	500	255	134,539	1,010,446	73,908	148,270	476,462	1,436,548	880,288	2,352,194	39,528	87,240	888,454
North Central.....	332	138	69,333	444,217	37,727	77,037	196,863	737,294	622,853	1,383,339	26,587	39,034	354,774
South.....	253	133	66,585	448,524	36,723	75,631	188,809	749,219	475,264	1,210,929	29,356	34,518	318,828
Texas.....	71	30	10,583	71,313	5,799	12,850	35,242	146,674	73,682	205,399	9,502	5,743	40,779
West.....	421	196	103,819	783,305	53,607	110,224	332,845	1,240,345	836,286	1,843,214	46,659	25,938	241,080

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in these or associated industries or areas, or (b) because these industries were of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on these industries.)

Table 3.—VALUE OF RADIO AND TV COMMUNICATION EQUIPMENT SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Radio, TV Communication Equipment Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3662- --	Radio and TV communication equipment, total.....	5,983,723	( <sup>1</sup> )
36621 --	Commercial, industrial, and military electronic communication equipment, except broadcast equipment and home-type intercommunication equipment.....	1,064,848	398,892
36621 10	Commercial, industrial, and military electronic communication equipment, (except broadcast equipment, space satellite-borne communications systems (complete package), home-type intercommunication equipment, and microwave and mobile telephone communication equipment): As reported in the census of manufactures..... As reported on Census Annual Form MA-36N <sup>2</sup> .....	997,120 980,000	388,529 (X)
36621 77	Microwave telephone (communication) equipment.....	50,789	16,326
36621 79	Mobile telephone (communication) equipment.....	14,025	635
36621 00	Commercial, industrial and military electronic communication equipment, not specified by kind.....	2,914	4,652
36622 10	Radio and television broadcast equipment, and closed circuit systems: As reported in the census of manufactures..... As reported on Census Annual Form MA-36N <sup>2</sup> .....	149,683 143,000	53,995 (X)
36623 --	Intercommunication equipment (except telephone and telegraph) and electric alarm systems and signal systems and devices.....	160,386	129,786
36623 10	Intercommunication equipment, excluding railway signals: As reported in the census of manufactures..... As reported on Census Annual Form MA-36N <sup>2</sup> .....	130,139 129,000	83,402 (X)
36623 21	Railway signals and attachments, electric: Railroad highway grade crossing signals, exclusive of relays and other control apparatus.....	3,891	3,419
36623 29	Other railway signal systems and safety control equipment.....	24,515	37,721
36623 00	Intercommunication equipment (except telephone and telegraph) and electric alarm and signals systems and devices, not specified by kind.....	1,841	5,244
36624 10	Electronic navigational aids, except missile-borne and space-vehicle borne equipment: As reported in the census of manufactures..... As reported on Census Annual Form MA-36N <sup>2</sup> .....	1,261,667 1,224,000	( <sup>1</sup> ) (X)
36625 10	Electronic search and detection apparatus, including radar, infrared and sonar: As reported in the census of manufactures..... As reported on Census Annual Form MA-36N <sup>2</sup> .....	1,615,010 1,564,000	1,032,955 (X)
36626 10	Electronic military, industrial, and commercial equipment, n.e.c.: As reported in the census of manufactures..... As reported on Census Annual Form MA-36N <sup>2</sup> .....	701,722 663,000	287,771 (X)
36627 10	Space satellite-borne communications systems (complete package): As reported in the census of manufactures..... As reported on Census Annual Form MA-36N <sup>2</sup> .....	28,709 28,000	(NA) (X)
36628 10	Missile-borne and space vehicle-borne navigation and guidance systems and equipment: As reported in the census of manufactures..... As reported on Census Annual Form MA-36N <sup>2</sup> .....	972,853 961,000	(NA) (X)
36620 00	Radio and TV communication equipment, not specified by kind.....	28,845	-

- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>Comparable data for 1958 not available. See text for more detailed explanation.

<sup>2</sup>Value shown is preliminary.





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OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC33(P)-36D-5



preliminary  
report

INDUSTRY SERIES

## Electron tubes, receiving type

SIC Code 3671

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Electron Tubes, Receiving Type Industry had total shipments valued at \$314 million, a decrease of 22 percent from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 31 percent from 1958 and 3 percent from 1962 to a total of 26 thousand employees in 1963. Value added by manufacture amounted to \$244 million in 1963, a decrease of 17 percent from 1958 but an increase of 2 percent from 1962.

The Electron Tubes, Receiving Type Industry includes establishments engaged primarily in the manufacture of radio and television receiving type electron tubes, except cathode ray tubes. Establishments primarily engaged in manufacturing television receiving type cathode ray tubes are classified in Industry 3672; transmitting tubes in Industry 3673; X-ray tubes in Industry 3693; and electronic equipment for home entertainment, except tubes, in Industry 3651.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.—GENERAL STATISTICS FOR THE ELECTRON TUBES, RECEIVING TYPE, INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3671)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	42	22	25,850	136,768	20,357	37,670	90,463	243,838	76,109	314,246	5,403	(X)
1962.....	(NA)	(NA)	26,575	134,616	21,381	40,443	92,592	239,125	72,515	310,224	5,308	4
1961.....	(NA)	(NA)	27,179	131,675	21,715	39,561	88,014	230,913	79,949	313,860	8,275	2
1960.....	(NA)	(NA)	36,182	162,071	29,234	51,340	107,312	299,998	103,485	397,032	14,695	2
1959.....	(NA)	(NA)	37,391	163,173	30,374	56,139	113,322	323,801	106,019	422,068	12,201	1
1958.....	85	41	36,968	149,540	30,931	57,271	110,707	285,799	92,260	382,526	11,514	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1959 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

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(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

#### VALUE ADDED BY MANUFACTURE

For 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Electron Tubes, Receiving Type Industry consists not only of products described above as primary to the industry, but also

of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Electron Tubes, Receiving Type Industry amounted to \$314 million. Of this total, \$33 million were products primary to other industries; and \$15 million were receipts for miscellaneous activities. The industry shipments of primary products represented 89 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 89 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$282 million of electron tubes, receiving type were shipped by all producers of these products. Of this total, \$267 million, or 95 percent, were shipped by plants classified in Industry 3671, Electron Tubes, Receiving Type, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 96 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of

## 1963 CENSUS OF MANUFACTURES

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Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next

census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE ELECTRON TUBES, RECEIVING TYPE, INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3671)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	42	22	25,850	136,768	20,357	37,670	90,463	243,838	76,109	314,246	5,403	36,968	285,799
Northeast.....	25	16	16,637	90,993	12,432	22,543	56,144	153,183	47,548	203,346	3,512	24,593	175,396
All other divisions.....	17	6	9,213	45,775	7,925	15,127	34,319	90,655	28,561	110,900	1,891	12,375	110,403

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—VALUE OF ELECTRON TUBES, RECEIVING TYPE, SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Electron Tubes, Receiving Type, Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3671- --	Electron tubes, receiving type, total.....	281,874	337,274
36710 00	Radio and television receiving type electron tubes, except cathode ray:		
	As reported in the census of manufactures.....	281,874	337,274
	As reported on Census Annual Form MA-36N <sup>1</sup> .....	276,000	(X)

(X) Not applicable.

<sup>1</sup>Value shown is preliminary. Detailed product statistics will be published later this year in Current Industrial Reports Series M36N "Selected Electronic and Associated Products."

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36D-6



INDUSTRY SERIES

preliminary  
report

## Cathode ray picture tubes

SIC Code 3672

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Cathode Ray Picture Tubes Industry had total shipments valued at \$264 million, an increase of 66 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 28 percent from 1958 to a total of 11 thousand employees in 1963. Value added by manufacture amounted to \$123 million in 1963, an increase of 83 percent from 1958.

The Cathode Ray Picture Tubes Industry includes establishments engaged primarily in the manufacture of television receiving type cathode ray tubes. Establishments primarily engaged in manufacturing other radio and television receiving type electron tubes are classified in Industry 3671; and transmitting tubes in Industry 3673.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE CATHODE RAY PICTURE TUBES INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3672)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	150	28	10,914	66,884	7,945	16,630	40,417	123,158	142,109	263,977	16,135
1958 <sup>3</sup> .....	75	30	8,554	38,092	6,955	14,183	27,570	67,472	91,972	159,252	1,794

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

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ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958 and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

VALUE ADDED BY MANUFACTURE

For 1958 and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Cathode Ray Picture Tubes Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for

contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Cathode Ray Picture Tubes Industry amounted to \$264 million. Of this total, \$39 million were products primary to other industries; and \$5 million were receipts for miscellaneous activities. The industry shipments of primary products represented 85 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 96 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$249 million of cathode ray picture tubes were shipped by all producers of these products. Of this total, \$219 million, or 88 percent, were shipped by plants classified in Industry 3672, Cathode Ray Picture Tubes, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 84 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of



## 1963 CENSUS OF MANUFACTURES

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Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next

census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE CATHODE RAY PICTURE TUBES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3672)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	150	28	10,914	66,884	7,945	16,630	40,417	123,158	142,109	263,977	16,135	8,554	67,472
Northeast.....	39	13	4,973	32,408	3,303	7,063	17,118	69,115	43,117	112,544	5,667	3,515	26,420
New York.....	11	4	569	3,533	473	1,033	2,587	2,925	4,683	7,832	633	2,091	16,736
North Central.....	48	9	5,423	32,315	4,204	8,681	21,621	50,403	95,685	144,370	9,613	4,638	37,162
South and West....	63	6	518	2,161	438	886	1,678	3,640	3,307	7,063	855	401	3,890

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—QUANTITY AND VALUE OF CATHODE RAY PICTURE TUBES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Cathode Ray Picture Tubes Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3672- —	Cathode ray picture tubes, total.....	(X)	249,367	(X)	177,251
36720 00	Cathode ray picture tubes, including rebuilt: As reported in the census of manufactures.....	(X)	249,367	9,671	177,251
	As reported on Census Annual Form MA-36N <sup>1</sup> .....	10,200	243,000	(X)	(X)

(X) Not applicable.

<sup>1</sup>Data shown are preliminary. Final figures will be published later this year in Current Industrial Reports Series M36N "Selected Electronic and Associated Products."



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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36D-7



INDUSTRY SERIES

preliminary  
report

## Electron tubes, transmitting

SIC Code 3673

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Electron Tubes, Transmitting, Industry had total shipments valued at \$301 million, an increase of 16 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 6 percent from 1958 and 24 percent from 1962 to a total of 19 thousand employees in 1963. Value added by manufacture amounted to \$204 million in 1963, an increase of 23 percent from 1958 but a decrease of 26 percent from 1962.

The Electron Tubes, Transmitting, Industry includes establishments engaged primarily in the manufacture of transmitting, industrial, and special purpose electron tubes. Establishments primarily engaged in manufacturing radio and television transmitting equipment are classified in Industry 3662; radio and television receiving tubes in Industry 3671; television receiving type cathode ray tubes in Industry 3672; and X-ray tubes in Industry 3693.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.--GENERAL STATISTICS FOR THE ELECTRON TUBES, TRANSMITTING, INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3673)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963 <sup>2</sup> .....	58	46	18,907	130,531	11,745	24,266	72,917	204,492	97,329	301,093	13,362	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	25,023	157,419	15,220	31,137	84,537	276,760	131,649	404,908	18,609	3
1961 <sup>2</sup> .....	(NA)	(NA)	23,263	140,755	14,248	29,058	75,543	225,177	112,876	335,528	16,727	2
1960 <sup>2</sup> .....	(NA)	(NA)	22,273	125,485	13,665	27,667	66,540	203,477	100,422	292,842	20,190	2
1959 <sup>2</sup> .....	(NA)	(NA)	22,658	123,172	14,487	29,687	69,322	201,343	98,513	291,903	11,818	1
1958 <sup>3</sup> .....	48	44	20,146	102,150	14,475	29,472	65,134	165,803	90,669	258,474	9,021	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification so that comparable data for prior years are not available.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Electron Tubes, Transmitting, Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Electron Tubes, Transmitting, Industry amounted to \$301 million. Of this total, \$52 million were products primary to other industries; and \$33 million were receipts for miscellaneous activities. The industry shipments of primary products represented 81 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 83 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$285 million of electron tubes, transmitting were shipped by all producers of these products. Of this total, \$216 million, or 76 percent, were shipped by plants classified in Industry 3673, Electron Tubes, Transmitting, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 81 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary



## 1963 CENSUS OF MANUFACTURES

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reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE ELECTRON TUBES, TRANSMITTING, INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958  
(SIC code 3673)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	58	46	18,907	130,531	11,745	24,266	72,917	204,492	97,329	301,093	13,362	20,146	165,803
Northeast.....	31	25	9,170	59,612	5,585	10,833	31,946	93,339	56,449	150,906	4,960	14,332	114,836
New York.....	7	7	3,209	20,476	1,567	2,746	7,284	38,010	27,489	67,018	1,403	1,885	16,057
New Jersey.....	13	10	1,161	6,961	858	1,685	4,419	12,822	5,061	16,291	761	2,408	17,070
North Central.....	5	4	415	2,288	279	555	1,161	2,730	1,575	4,850	(1)	577	2,969
South and West.....	22	17	9,322	68,631	5,881	12,878	39,810	108,423	39,305	145,337	8,357	5,237	47,998
California.....	16	13	8,023	60,483	4,916	10,840	34,533	91,678	33,013	126,421	7,865	4,302	32,239

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF TRANSMITTING, INDUSTRIAL, AND SPECIAL PURPOSE ELECTRON TUBES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Electron Tubes, Transmitting, Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3673- --	Transmitting, industrial, and special purpose electron tubes, total.....	285,416	224,899
36730 00	Transmitting, industrial, and special purpose electron tubes:		
	As reported in the census of manufactures.....	285,416	224,899
	As reported on Census Annual Form MA-36N <sup>1</sup> .....	281,000	(X)

(X) Not applicable.

<sup>1</sup>Value shown is preliminary. Detailed product statistics will be published later this year in Current Industrial Reports Series M36N, "Selected Electronic and Associated Products."

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36D-8



INDUSTRY SERIES

preliminary  
report

## Semiconductors

SIC Code 3674

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Semiconductors Industry had total shipments valued at \$680 million, an increase of 172 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 140 percent over 1958 to a total of 56 thousand employees in 1963. Value added by manufacture amounted to \$461 million in 1963, an increase of 147 percent from 1958.

The Semiconductors Industry includes establishments engaged primarily in the manufacture of semiconductor (solid state) and related devices, such as semiconductor diodes and stacks, including rectifiers; transistors; solar cells; and light sensitive semiconductor (solid state) devices.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. This industry

Table 1.—GENERAL STATISTICS FOR THE SEMICONDUCTORS INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3674)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	103	83	55,995	317,926	37,941	76,830	168,152	461,119	198,313	680,419	51,968
1958 <sup>2</sup> .....	48	42	23,370	112,989	17,630	34,691	65,902	186,800	79,522	250,306	16,172

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>This industry was included in Industry 3679 in the 1958 census of manufactures. Accordingly, no estimates are available for 1959-1962, or for years prior to 1958. The figures for 1958 are based on a special tabulation.

June 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





was not listed in the 1957 SIC Manual as a separate industry but has been separately provided for in the 1963 supplement to the SIC. Data for Alaska and Hawaii are included for 1958 and 1963.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

### VALUE ADDED BY MANUFACTURE

For 1958-1963 value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Semiconductors Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Semiconductors Industry

amounted to \$680 million. Of this total, \$81 million were products primary to other industries; and \$32 million were receipts for miscellaneous activities. The industry shipments of primary products represent 87 percent of the total manufactured product shipments, primary and secondary.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$614 million of solid state semiconductor devices were shipped by all producers of these products. Of this total, \$567 million, or 92 percent, were shipped by plants classified in Industry 3674, Semiconductors, while the remainder was shipped by plants classified in other industries.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in table 1 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (table 1) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

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Table 2.—GENERAL STATISTICS FOR THE SEMICONDUCTORS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3674)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	103	83	55,995	317,926	37,941	76,830	168,152	461,119	198,313	680,419	51,968	23,370	186,805
New England.....	26	23	10,074	49,235	8,082	16,900	34,406	59,046	31,151	97,598	4,979	6,815	46,675
Middle Atlantic.....	33	26	19,043	113,788	12,291	24,184	58,043	162,084	74,097	252,547	19,502	8,067	55,835
Pennsylvania.....	11	9	11,054	65,350	7,446	14,463	36,927	93,973	49,613	158,238	14,307	2,901	20,091
All other divisions.....	44	34	26,878	154,903	17,568	35,746	75,703	239,989	93,065	330,274	27,487	8,488	84,290
California.....	26	20	10,873	66,531	6,464	12,445	26,618	109,099	33,966	142,714	8,674	3,726	33,090

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—VALUE OF SEMICONDUCTORS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Semiconductors Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3674- --	Semiconductors.....	614,352	236,702
36740 00	Solid state semiconductor devices:		
	As reported in the census of manufactures.....	614,352	236,702
	As reported on Census Annual Form MA-36N <sup>1</sup> .....	608,000	(X)

(X) Not applicable.

<sup>1</sup>Value shown is preliminary. Detailed product statistics will be published later this year in Current Industrial Reports Series, MB6N, "Selected Electronic and Associated Products."

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36D-9



## INDUSTRY SERIES

**preliminary  
report**

### Electronic components, n. e. c.

SIC Code 3679

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Electronic Components, N.E.C., Industry had total shipments valued at \$2,252 million, an increase of 83 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 58 percent from 1958 to a total of 172 thousand employees in 1963. Value added by manufacture amounted to \$1,402 million in 1963, an increase of 93 percent from 1958.

The Electronic Components, N.E.C., Industry includes establishments engaged primarily in the

manufacture of specialty resistors for electronic end products; inductors, electronic transformers, and capacitors; and other electronic components, not elsewhere classified. Establishments primarily engaged in manufacturing resistors, inductors, and transformers for telephone and telegraph apparatus are classified in Industry 3661. Also, establishments producing solid state semiconductor and related devices are now classified in SIC 3674, Semiconductor Devices.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.—GENERAL STATISTICS FOR THE ELECTRONIC COMPONENTS, N.E.C., INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3679)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963.....	1,897	945	172,019	857,574	130,074	256,126	528,086	1,401,860	868,090	2,252,083	86,329
1958.....	1,431	695	108,872	451,032	85,251	166,696	301,424	728,006	473,451	1,195,378	35,719

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>This industry included the semiconductor devices manufacturers (present SIC 3674) in 1958. Accordingly, no estimates are available for 1959-1962, or for years prior to 1958. The 1958 data are based on a special tabulation.

June 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the years 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958 and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

### VALUE ADDED BY MANUFACTURE

For 1958 and 1963 value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Electronic Components, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Electronic Components, N.E.C., Industry amounted to \$2,252 million. Of this total, \$200 million were products primary to other industries; and \$139 million were receipts for miscellaneous activities. The industry

shipments of primary products represent 91 percent of the total manufactured product shipments, primary and secondary.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$2,459 million of electronic components, n.e.c., were shipped by all producers of these products. Of this total, \$1,913 million, or 78 percent, were shipped by plants classified in Industry 3679, Electronic Components, N.E.C., while the remainder was shipped by plants classified in other industries.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.



## 1963 CENSUS OF MANUFACTURES

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Table 2.—GENERAL STATISTICS FOR THE ELECTRONIC COMPONENTS, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3679)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,897	945	172,019	857,574	130,074	256,126	528,086	1,401,860	868,090	2,252,083	86,329	108,872	728,006
New England.....	246	131	30,751	148,116	22,659	44,300	85,546	218,357	129,115	345,626	9,889	19,036	111,011
Rhode Island.....	9	7	881	3,184	701	1,333	1,897	5,257	2,548	7,505	(1)	374	2,000
Middle Atlantic...	583	287	49,083	263,471	36,062	71,294	154,401	438,485	288,652	717,699	34,281	4,157	259,527
New York.....	256	132	26,271	150,971	18,455	37,086	80,835	224,171	166,337	382,077	23,195		
New Jersey.....	214	97	10,920	55,717	8,190	16,121	34,523	100,363	57,397	157,075	3,870		
Pennsylvania....	113	58	11,892	56,783	9,417	18,087	39,043	113,951	64,918	178,547	7,216		
East North Central	338	210	38,158	173,764	30,520	58,944	115,669	273,831	195,904	467,767	10,562	53,679	357,468
Illinois.....	165	113	19,950	85,784	16,117	31,029	56,822	130,878	95,209	226,330	5,010		
Michigan.....	41	17	3,017	13,600	2,496	4,888	9,072	28,776	32,657	59,080	750		
Wisconsin.....	32	19	2,802	14,403	2,152	3,882	8,483	23,890	9,915	33,479	890		
West North Central	81	48	8,681	36,962	6,723	13,260	23,820	78,077	41,560	119,807	3,004	11,436	87,827
South.....	181	86	19,738	87,156	15,718	31,017	60,864	148,538	91,597	242,359	9,323		
North Carolina..	15	14	3,643	13,521	3,052	6,101	10,184	33,357	13,222	46,680	1,645		
Tennessee.....	9	6	1,130	3,825	918	1,809	2,535	5,662	2,961	8,389	(1)		
West.....	468	183	25,628	148,105	18,392	37,311	87,786	244,572	121,262	358,825	19,270	11,436	87,827
California.....	426	169	24,600	142,937	17,577	35,578	84,232	236,842	117,204	346,838	18,865		

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF ELECTRONIC COMPONENTS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Electronic Components, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3679- --	Electronic components and accessories, n.e.c., total.....	2,459,052	1,244,506
36792 00	Capacitors for electronic applications:		
	As reported in the census of manufactures.....	318,257	183,562
	As reported on Census Annual Form MA-36N <sup>1</sup> .....	306,000	(X)
36793 00	Resistors for electronic applications:		
	As reported in the census of manufactures.....	312,362	146,788
	As reported on Census Annual Form MA-36N <sup>1</sup> .....	312,000	(X)
36794 00	Coils, transformers, reactors, and chokes for electronic applications:		
	As reported in the census of manufactures.....	271,474	205,356
	As reported on Census Annual Form MA-36N <sup>1</sup> .....	259,000	(X)
36795 --	Other electronic components and accessories, n.e.c., including parts for electron tubes (except glass blanks):		
36795 00	As reported in the census of manufactures.....	1,421,945	607,648
	As reported on Census Annual Form MA-36N <sup>1</sup> .....	1,342,000	(X)
36795 47	Phonograph needles and cutting styli.....	37,116	10,931
36790 00	Electronic components and accessories, not specified by kind.....	97,898	90,221

(X) Not applicable.

<sup>1</sup>Value shown is preliminary. Detailed product statistics will be published later this year in Current Industrial Reports Series MBGN, "Selected Electronic and Associated Products."



U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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OFFICIAL BUSINESS

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

# 1963 CENSUS OF MANUFACTURES

MC63(P)-36E-1



preliminary  
report

INDUSTRY SERIES

## Storage batteries

SIC Code 3691

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Storage Batteries Industry shipped products valued at \$515 million, an increase of 40 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 17 percent from 1958 and 8 percent from 1962 to a total of 18 thousand employees in 1963. Value added by manufacture amounted to \$245 million in 1963, an increase of 63 percent from 1958 and 16 percent from 1962.

The Storage Batteries Industry includes establishments engaged primarily in the manufacture of storage batteries for automobiles, trucks, farm tractors and busses as well as storage batteries for farm uses, communications systems and railroad equipment. Parts for storage batteries are also included in this industry.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE STORAGE BATTERIES INDUSTRY IN THE UNITED STATES: FOR SELECTED YEARS

(SIC code 3691)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	252	120	17,524	108,746	13,873	28,465	80,235	244,735	272,647	515,005	11,958	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	16,250	99,410	12,540	29,201	74,813	210,867	245,478	452,097	9,566	3
1961 <sup>2</sup> .....	(NA)	(NA)	15,427	89,516	11,725	27,134	67,261	178,547	245,787	423,353	8,449	2
1960 <sup>2</sup> .....	(NA)	(NA)	15,525	87,867	12,075	26,545	63,709	167,923	244,521	415,777	9,188	2
1959 <sup>2</sup> .....	(NA)	(NA)	16,059	88,298	12,648	27,684	66,081	180,792	244,241	417,413	6,766	1
1958.....	276	106	14,924	76,961	11,787	23,205	55,459	150,061	211,794	368,993	7,330	(X)
1954 <sup>3</sup> .....	308	101	15,670	66,872	11,899	23,244	46,415	128,882	215,854	343,668	10,512	(X)
1947 <sup>3</sup> .....	246	(NA)	16,570	49,734	13,632	29,541	38,257	114,246	183,408	297,654	(NA)	(X)
1939 <sup>3</sup> .....	190	(NA)	(NA)	(NA)	9,564	(NA)	12,743	35,841	48,932	84,773	(NA)	(X)

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Storage Batteries Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Storage Batteries Industry amounted to \$515 million. Of this total, \$28 million were products primary to other industries; and \$24 million were receipts for miscellaneous activities. The industry shipments of primary products represented 94 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 99 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$477 million of Storage Batteries were shipped by all producers of these products. Of this total, \$463 million, or 97 percent, were shipped by plants classified in Industry 3691, Storage Batteries, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 100 percent.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which



show the shipments by all producers of the primary products of the industry.

through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

# PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE STORAGE BATTERIES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3691)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	252	120	17,524	108,746	13,873	28,465	80,235	244,735	272,647	515,005	11,958	14,924	150,061
New England.....	16	10	1,129	7,540	706	1,519	3,243	12,989	13,938	26,288	1,503	501	5,758
Middle Atlantic...	34	18	5,549	34,683	4,200	8,331	24,864	69,129	68,498	137,289	2,338	5,238	46,260
New York.....	8	5	900	5,199	676	1,433	3,372	8,680	9,574	18,787	(1)	1,011	9,168
New Jersey.....	11	6	1,901	11,584	1,514	3,092	9,301	27,259	23,460	51,083	637	1,556	14,300
Pennsylvania...	15	7	2,748	17,900	2,010	3,806	12,191	33,190	35,464	67,419	1,233	2,671	22,792
North Central....	65	38	6,300	39,306	5,300	11,002	31,804	93,208	105,778	198,332	2,540	5,406	55,904
Indiana.....	8	5	2,128	15,343	1,834	4,050	12,868	31,759	32,631	64,643	639	1,670	15,697
Illinois.....	19	11	1,049	5,927	835	1,578	4,333	17,161	18,619	35,972	(1)	872	12,630
Michigan.....	8	4	652	4,559	544	1,217	3,713	10,232	16,825	26,938	(D)	446	4,412
South Atlantic...	37	16	1,383	8,083	1,069	2,192	5,412	19,673	24,325	43,956	2,538	830	10,236
East South Central.....	12	7	470	2,581	402	838	2,142	8,459	9,240	17,514	(1)	364	4,412
West South Central.....	24	9	862	5,384	690	1,480	4,133	12,656	17,255	29,557	1,483	833	9,258
West.....	64	22	1,831	11,169	1,506	3,103	8,637	28,621	33,613	62,069	1,187	1,752	18,233
California.....	40	15	1,437	9,051	1,207	2,506	7,090	22,797	26,098	48,684	633	1,391	14,419

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures of individual companies.

<sup>1</sup>Less than \$500 thousand.

Table 3A.—QUANTITY AND VALUE OF STORAGE BATTERIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Storage Batteries Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3691- --	Storage batteries, total.....	.....	(X)	476,765	(X)	361,489
36911 --	Storage batteries, SLI type.....	.....	(X)	361,010	(X)	278,960
	Motor vehicle type storage batteries, including tractor, aircraft, and marine starting, lighting, and ignition types, complete units:					
	Automobile, truck, farm tractor, and bus:					
	Automotive type (all types primarily designed to fit passenger cars, regardless of application) for original equipment:					
36911 12	6 volt.....	1,000 units....	9,214	77,285	{ 413 5,450	3,311 48,798
36911 15	12 volt.....	do.....				
	For replacement:					
	Wet:					
36911 21	6 volt.....	do.....	9,915	72,652	<sup>1</sup> 17,450	<sup>1</sup> 128,226
36911 23	12 volt.....	do.....	8,459	74,095	<sup>1</sup> 7,419	<sup>1</sup> 74,327
	Dry charge:					
36911 27	6 volt.....	do.....	4,338	33,658	(NA)	(NA)
36911 28	12 volt.....	do.....	9,496	79,963	(NA)	(NA)
	Heavy-duty transport, motor coach and bus, and diesel starting batteries (excluding marine and railway diesel starting batteries):					
	For original equipment:					
36911 32	6 volt.....	1,000 units....	146	1,422	76	<sup>2</sup> 1,837
36911 35	12 volt.....	do.....	234	3,693		
	For replacement:					
36911 42	6 volt.....	do.....	478	4,431	273	3,983
36911 45	12 volt.....	do.....	278	4,437	110	3,106
36911 51	Aircraft.....	do.....	90	3,154	<sup>r</sup> 73	2,649
36911 71	Marine.....	do.....	92	1,474	<sup>r</sup> 118	4,745
36911 98	Other starting, lighting, and ignition type batteries (including motorcycle).....	do.....	(X)	4,746	(X)	7,978
36912 --	Storage batteries (other than SLI type) including parts for storage batteries, all types.....	.....	(X)	112,000	(X)	78,511
	Motive power type:					
36912 11	Industrial truck type.....	1,000 units....	153	27,420	(NA)	18,074
36912 19	Other motive power type storage batteries, including mining, and industrial locomotive and railway.....	Number of units	24	3,794	(X)	888
36912 41	Farm and emergency lighting storage batteries.....	do.....	(X)	( <sup>3</sup> )	(X)	( <sup>4</sup> )
36912 51	Communication storage batteries (include radio station, telephone and telegraph, and railroad signalling).....	.....	(X)	18,126	(X)	15,626
36912 61	Railway diesel starting batteries.....	Number of units	28	6,031	(X)	( <sup>4</sup> )
36912 71	Railway air-conditioning and car lighting batteries.....	do.....	(X)	( <sup>3</sup> )	(X)	3,660
36912 91	Parts and supplies for storage batteries.....	.....	(X)	9,330	(X)	10,767
36912 93	Nickel-cadmium batteries.....	1,000 batteries	2,683	8,917	(NA)	(NA)
36912 95		1,000 of cells.	2,933	(X)	(NA)	(NA)
36912 98	Other storage batteries.....	Number of units	(X)	<sup>3</sup> 38,382	(X)	<sup>4</sup> 29,496
36910 00	Storage Batteries, not specified by kind.....	.....	(X)	3,755	(X)	4,018

(NA) Not available. (X) Not applicable. <sup>r</sup>Revised.<sup>1</sup>For 1958, includes both wet and dry charge.<sup>2</sup>For 1958, includes \$180 thousand for which no quantity was reported.<sup>3</sup>For 1963, product codes 3691241 and 3691271 are included with product code 3691298.<sup>4</sup>For 1958, product codes 3691241 and 3691261 are included with product code 3691298.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR STORAGE BATTERIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
36911	Storage batteries, SLI type.....1963...	164	85
	.....1958...	113	95

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OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-36E-2



INDUSTRY SERIES

preliminary  
report

## Primary batteries, dry and wet

SIC Code 3692

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Primary Batteries, Dry and Wet, Industry had total shipments valued at \$195 million, an increase of 41 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 4 percent from 1958 to a total of 8 thousand employees in 1963. Value added by manufacture amounted to \$114 million in 1963, an increase of 51 percent from 1958.

The Primary Batteries, Dry and Wet, Industry includes establishments engaged primarily in the manufacture of dry and wet cell primary batteries for flashlights, railroad lanterns, hearing aids, portable radios, farm radios, and general purposes as well as parts and supplies for primary batteries.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE PRIMARY BATTERIES, DRY AND WET, INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC Code 3692)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>2</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	46	30	8,466	40,556	6,777	13,594	28,982	113,745	80,249	195,205	4,131
1958.....	42	29	8,096	34,025	6,498	13,236	24,455	75,431	59,518	138,215	2,343
1954 <sup>3</sup> .....	41	33	10,775	36,633	8,893	16,814	27,427	58,490	61,080	123,803	2,088
1947 <sup>3</sup> .....	38	(NA)	10,261	24,463	9,181	18,407	20,656	45,275	39,770	85,045	(NA)
1939 <sup>3</sup> .....	31	(NA)	(NA)	(NA)	5,470	(NA)	6,466	18,565	14,245	32,810	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the years 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic

importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Primary Batteries, Dry and Wet, Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Primary Batteries, Dry and Wet, Industry amounted to \$195 million. Of this total, \$5 million were products primary to other industries; and \$14 million were receipts for miscellaneous activities. The industry shipments of primary products represented 97 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 99 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$190 million of primary batteries, dry and wet, were shipped by all producers of these products. Of this total, \$176 million, or 93 percent, were shipped by plants classified in Industry 3692, Primary Batteries, Dry and Wet, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 98 percent.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also

their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued,

Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE PRIMARY BATTERIES, DRY AND WET, INDUSTRY BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3692)

Region	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expendi- tures, new (\$1,000)	All employ- ees, number	Value added by manufac- ture (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	46	30	8,466	40,556	6,777	13,594	28,982	113,745	80,249	195,205	4,131	8,096	75,431
Northeast.....	14	9	1,766	8,972	1,434	2,935	6,597	23,709	15,743	40,865	737	1,665	16,651
North Central, South, and West..	32	21	6,700	31,584	5,343	10,659	22,385	90,036	64,506	154,340	3,394	6,431	58,780

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3A.--QUANTITY AND VALUE OF PRIMARY BATTERIES, DRY AND WET, SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Primary Batteries, Dry and Wet, Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3692- --	Primary batteries, dry and wet, total.....	.....	(X)	190,155	(X)	135,679
	Dry cells (Leclanche types), except military:					
	General purpose (6" or equivalent) 1.5 volt dry cells:					
36920 12 }	Single unit.....	1,000 batteries	5,084	2,741	18,355	15,953
36920 14 }		1,000 cells....	5,084	(X)	10,530	(X)
36920 16 }	Multiple.....	1,000 batteries	1,823	3,051	(1)	(1)
36920 18 }		1,000 cells....	5,605	(X)	(1)	(X)
	Flashlight cells (single cells only):					
	"D" size:					
36920 22	Standard.....	1,000 cells....	399,685	34,870	363,513	34,311
36920 23	Industrial.....	.....do.....				
36920 25	"C" size, medium.....	.....do.....	179,565	12,818	89,241	7,259
36920 26	AA size, penlight.....	.....do.....				
36920 27	AAA size, penlight.....	.....do.....				
36920 28	N size, novelty.....	.....do.....				
36920 29	All other single cells.....	.....do.....				

See footnotes at end of table.



Table 3A.--QUANTITY AND VALUE OF PRIMARY BATTERIES, DRY AND WET, SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958--Continued

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3692- --	Primary batteries, dry and wet--Continued					
	Dry cells (Leclanche types), except military--Continued					
36920 31 }	Lantern batteries and other multiple cells (general purpose	1,000 batteries	16,794	14,227	12,758	7,784
36920 33 }	industrial RR type emergency and other multiple cells).....	1,000 cells....	67,566	(X)	54,139	(X)
	Hearing aid cells:					
36920 41 }	A type.....	1,000 batteries	( <sup>a</sup> )	( <sup>a</sup> )	<sup>a</sup> 9,424	<sup>a</sup> 1,454
36920 43 }		1,000 cells....	( <sup>a</sup> )	( <sup>a</sup> )	<sup>a</sup> 24,311	(X)
36920 45 }	B type.....	1,000 batteries	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
36920 47 }		1,000 cells....	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	(X)
36920 51 }	Photoflash batteries.....	1,000 batteries	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
36920 53 }		1,000 cells....	( <sup>a</sup> )	( <sup>a</sup> )	( <sup>a</sup> )	(X)
	Radio A-B and C cells (other than photoflash and hearing aid):					
36920 55 }	Portable radio and instrument.....	1,000 batteries	124,289	32,609	22,586	15,732
36920 57 }		1,000 cells....	429,255	(X)	339,412	(X)
36920 61 }	Farm radio "A-B" packs.....	1,000 batteries	( <sup>b</sup> )	( <sup>b</sup> )	911	3,586
36920 63 }		1,000 cells....	( <sup>b</sup> )	(X)	49,803	(X)
36920 69 }	Other types.....	1,000 batteries	<sup>b</sup> 1,092	<sup>b</sup> 1,284	4,431	2,566
36920 71 }		1,000 cells....	<sup>b</sup> 6,133	(X)	73,098	(X)
	Dry cell (except Leclanche type and military):					
36920 72 }	Mercury.....					
36920 73 }		1,000 batteries	<sup>c</sup> 144,734	<sup>c</sup> 31,146	( <sup>a</sup> )	( <sup>a</sup> )
36920 76 }	Alkali.....	1,000 cells....	<sup>c</sup> 238,135	(X)	( <sup>a</sup> )	(X)
36920 77 }						
36920 79 }	All other dry cells (except military).....					
36920 81 }						
	Dry cells, military type:					
36920 83 }	General purpose (6" equivalent) 1.5 volts dry cells,	1,000 batteries	( <sup>e</sup> )	( <sup>e</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
36920 84 }	single and multiple unit.....	1,000 cells....	( <sup>e</sup> )	(X)	( <sup>a</sup> )	(X)
36920 85 }	Flashlight, standard.....	1,000 batteries	( <sup>e</sup> )	( <sup>e</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
36920 86 }		1,000 cells....	( <sup>e</sup> )	(X)	( <sup>a</sup> )	(X)
36920 87 }	Portable radio types.....	1,000 batteries	( <sup>e</sup> )	( <sup>e</sup> )	( <sup>a</sup> )	( <sup>a</sup> )
36920 88 }		1,000 cells....	( <sup>e</sup> )	(X)	( <sup>a</sup> )	(X)
36920 89 }	Other dry cells (military).....	1,000 batteries	<sup>e</sup> 37,428	<sup>e</sup> 20,539	<sup>a</sup> 23,463	<sup>a</sup> 34,095
36920 91 }		1,000 cells....	<sup>e</sup> 437,482	(X)	<sup>a</sup> 643,124	(X)
36920 92 }	Wet cell primary batteries.....	1,000 batteries	824	14,178	(NA)	6,252
36920 93 }		1,000 cells....	3,258	(X)		
36920 95 }	Parts and supplies for primary batteries.....		(X)	21,271	(X)	14,807
36920 99 }	Primary batteries, not specified by kind.....		(X)	1,441	(X)	1,880

(NA) Not available. (X) Not applicable.

<sup>a</sup>Codes 3692012 and 3692014 include data for codes 3692016 and 3692018 in 1958.<sup>b</sup>Codes 3692089 and 3692091 include data for codes 3692028, 3692029, 3692051, 3692053, and 3692072 through 3692088 in 1958.<sup>c</sup>Codes 3692072 through 3692081 include data for codes 3692041 through 3692053 in 1963.<sup>d</sup>Codes 3692041 and 3692043 include data for codes 3692045 and 3692047 in 1958.<sup>e</sup>Codes 3692069 and 3692071 include data for codes 3692061 and 3692063 in 1963.<sup>f</sup>Codes 3692089 and 3692091 include data for codes 3692083 through 3692088 in 1963.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR PRIMARY BATTERIES, DRY AND WET, SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3692-	Primary batteries, dry and wet.....1963...	164	99
	.....1958...	145	79

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36E-3



INDUSTRY SERIES

preliminary  
report

## X-ray apparatus and tubes

SIC Code 3693

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the X-Ray Apparatus and Tubes Industry had total shipments valued at \$143 million, an increase of 50 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 18 percent from 1958 to a total of 6.2 thousand employees in 1963. Value added by manufacture amounted to \$86 million in 1963, an increase of 47 percent from 1958.

The X-Ray Apparatus and Tubes Industry includes establishments engaged primarily in the manufacture of radiographic X-ray, fluoroscopic X-ray, and therapeutic X-ray apparatus and tubes for medical, industrial, research and control application. Establishments primarily engaged in manufacturing radio receiving type tubes are classified in Industry 3671; television 'receiving cathode ray tubes in Industry 3672; transmitting tubes in Industry 3673; and electrotherapeutic lamp units for ultra-violet and infra-red radiation in Industry 3641.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing

Table 1.—GENERAL STATISTICS FOR THE X-RAY APPARATUS AND TUBES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3693)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	60	30	6,225	41,805	3,423	6,896	20,088	86,108	56,720	142,784	2,144
1958.....	126	33	5,258	30,686	3,012	5,856	14,308	58,436	35,743	95,090	1,371
1954 <sup>3</sup> .....	130	35	7,054	32,583	4,601	9,036	17,688	57,665	40,736	97,043	1,913
1947 <sup>3</sup> .....	116	30	7,678	23,217	5,621	11,762	15,354	38,635	20,473	59,518	2,271
1939 <sup>3</sup> .....	77	(NA)	(NA)	(NA)	1,920	(NA)	2,708	12,057	5,690	17,747	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958 and 1963, figures on all employees represents the average number of production workers for the payroll period ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954, and 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954, 1958 and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of

products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the X-Ray Apparatus and Tubes Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the X-Ray Apparatus and Tubes Industry amounted to \$143 million. Of this total, \$18 million were products primary to other industries; and \$38 million were receipts for miscellaneous activities. The industry shipments of primary products represent 83 percent of the total manufactured product shipments primary and secondary. The 1958 ratio was 84 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$109 million of X-ray apparatus and tubes were shipped by all producers of these products. Of this total, \$87 million, or 80 percent, were shipped by plants classified in Industry 3693, X-Ray Apparatus and Tubes, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 82 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing



industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

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1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE X-RAY THERAPEUTIC APPARATUS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3693)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	60	30	6,225	41,805	3,423	6,896	20,088	86,108	56,720	142,784	2,144	5,258	58,436
Northeast.....	24	13	1,447	9,466	838	1,697	5,041	18,917	10,285	28,682	530	1,270	12,562
North Central.....	18	13	3,593	25,461	2,009	3,979	11,468	52,794	25,252	78,433	1,364	3,205	34,784
South and West....	18	4	1,185	6,878	576	1,220	3,579	14,397	21,183	35,669	( <sup>1</sup> )	783	11,090

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF X-RAY APPARATUS AND TUBES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the X-Ray Apparatus and Tubes Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3693- --	X-ray apparatus and tubes, total.....	108,556	72,969
	X-ray equipment, including x-ray tubes, and electro-therapeutic apparatus:		
36930 00	As reported in the census of manufactures.....	108,556	72,969
	As reported on Census Annual Form MA-36N <sup>1</sup> .....	104,000	(X)

(X) Not applicable.

<sup>1</sup>Value shown is preliminary. Detailed product statistics will be published later this year in Current Industrial Reports Series M36N "Selected Electronic and Associated Products."



U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
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OFFICIAL BUSINESS

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-36E-4



preliminary  
report

INDUSTRY SERIES

## Engine electrical equipment

SIC Code 3694

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Engine Electrical Equipment Industry had total shipments valued at \$916 million, an increase of 51 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 9 percent from 1958 but a decrease of 5 percent from 1962 to a total of 41 thousand employees in 1963. Value added by manufacture amounted to \$502 million in 1963, an increase of 42 percent from 1958 but a decrease of 6 percent from 1962.

The Engine Electrical Equipment Industry includes establishments engaged primarily in the manufacture of electrical equipment for internal combustion engines. Important products of this industry include starting motors and generators for automobiles and aircraft; and ignition apparatus for internal combustion engines including spark plugs, magnetos, coils, and distributors.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Industry 3694 has been amended to exclude manufacturers of non-ignition automotive wiring harness sets. Such

Table 1.—GENERAL STATISTICS FOR THE ENGINE ELECTRICAL EQUIPMENT INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3694)

Year	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963 <sup>2</sup> r...	184	100	41,432	255,248	33,170	67,962	186,885	501,942	407,259	915,827	15,541	(X)
1962 <sup>2</sup> r...	(NA)	(NA)	43,598	272,568	35,298	71,801	193,029	534,498	382,386	905,004	22,039	3
1961 <sup>2</sup> r...	(NA)	(NA)	40,485	236,857	31,949	61,334	157,859	449,219	311,162	766,399	18,698	2
1960 <sup>2</sup> r...	(NA)	(NA)	42,926	239,326	33,861	65,742	164,782	470,667	330,960	799,392	13,889	2
1959 <sup>2</sup> r...	(NA)	(NA)	41,281	235,993	32,616	66,524	165,103	473,468	323,023	782,467	12,119	1
1958 <sup>2</sup> r...	157	89	38,127	195,983	29,530	56,394	135,775	353,534	248,149	606,518	8,942	(X)

(NA) Not available. (X) Not applicable. <sup>†</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

A revision in the definition of this industry was made in the 1963 supplement to the 1957 edition of the Standard Industrial Classification, reclassifying establishments primarily manufacturing automotive wiring harness sets other than ignition from Industry 3694 to Industry 3714 (Census Industry 3717) "Automobiles and Parts." The statistics for 1958-1962 have been revised to take this reclassification into account. However, comparable data for this industry are not available for earlier years.

August 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



manufacturers are classified in Industry 3714 (Census Industry 3717). Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of non-production workers for one payroll period (usually in October). The figures for production workers, 1954, and 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments

and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Engine Electrical Equipment Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Engine Electrical Equipment Industry amounted to \$916 million. Of this total, \$120 million were products primary to other industries; and \$71 million were receipts for miscellaneous activities. The industry shipments of primary products represent 86 percent of the total manufactured product shipments, primary and secondary.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$869 million of engine electrical equipment were shipped by all producers of these products. Of this total, \$725 million, or 84 percent, were shipped by plants classified in Industry 3694, Engine Electrical Equipment, while the remainder was shipped by plants classified in other industries.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.



Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809.

For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE ENGINE ELECTRICAL EQUIPMENT INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3694)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	184	100	41,432	255,248	33,170	67,962	186,885	501,942	407,259	915,827	15,541	38,127	353,534
New England.....	17	11	2,152	10,908	1,626	3,035	6,555	17,168	17,686	34,725	(1)	2,410	17,817
Middle Atlantic...	45	27	4,561	21,799	3,443	6,760	14,242	44,747	28,784	73,250	1,203	7,847	57,376
New York.....	23	13	2,525	11,809	1,860	3,474	7,021	27,926	16,708	44,306	895	6,328	46,519
New Jersey.....	10	6	855	4,144	728	1,533	3,007	6,168	5,286	11,449	(1)	515	3,246
Pennsylvania....	12	8	1,181	5,846	855	1,753	4,214	10,653	6,790	17,495	(1)	1,004	7,611
East North Central	52	37	31,805	208,344	25,722	53,308	156,141	413,995	339,637	759,507	13,309	26,644	267,667
Ohio.....	11	9	5,921	35,743	4,673	9,343	23,521	76,167	67,132	145,782	2,921	8,135	85,479
Wisconsin.....	5	5	1,235	5,706	1,020	2,034	4,188	9,776	6,737	16,396	(1)	2,031	10,651
West North Central	10	3	656	3,951	520	1,001	2,602	8,925	8,021	17,040	(1)	407	4,518
South.....	31	13	1,530	6,022	1,300	2,702	4,475	9,964	9,525	20,659	(1)	343	2,155
West.....	29	9	728	4,224	559	1,156	2,870	7,143	3,606	10,646	(1)	476	4,001
California.....	26	9	704	4,087	540	1,112	2,793	6,934	3,402	10,236	(1)	462	3,881

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF ELECTRICAL EQUIPMENT FOR INTERNAL COMBUSTION ENGINES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Engine Electrical Equipment Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3694--	Electrical equipment for internal combustion engine.....		(X)	868,967	(X)	<sup>r</sup> 586,853
36941--	Ignition harness and cable sets <sup>1</sup> .....		(X)	58,855	(X)	<sup>r</sup> 28,831
	Ignition harness sets:					
36941 11	Automotive type <sup>1</sup> .....	1,000 units.	20,438	28,667	(NA)	( <sup>2</sup> )
36941 15	Aircraft type.....	..do.....	1,377	6,716	(NA)	<sup>2</sup> <sup>r</sup> 9,580
36941 19	Other, including tractor, stationary engine, etc.....	..do.....	(X)	2,330	(X)	<sup>2</sup> <sup>r</sup> 10,191
36941 51	Cable sets (automotive and aircraft types).....	1,000 units.	15,420	20,698	(NA)	7,923
36941 00	Ignition harness sets, not specified by kind.....	..do.....	(X)	444	(X)	1,137
36942--	Battery charging generators.....		(X)	186,492	(X)	104,930
	Battery charging generators, including alternators for internal combustion engines:					
	Passenger car and light truck type:					
36942 11	6 volt.....	1,000 units.	450	3,631	321	2,672
36942 15	12 volt.....	..do.....	9,334	119,972	5,345	53,574
36942 21	Heavy-duty truck and bus type- 12 volt and higher.....	..do.....	280	17,539	581	10,405
36942 29	All other (excluding farm lighting generators, but including farm tractor, marine, stationary, and construction machinery types).....	..do.....	304	4,191	(NA)	7,914
	Regulators for battery charging generators:					
36942 41	Passenger car and light truck type.....	..do.....	13,891	34,867	10,237	24,781
36942 49	Other types, including heavy-duty, truck and bus type.....	..do.....	727	5,710	(NA)	5,584
36942 00	Battery charging generators, not specified by kind.....	..do.....	(X)	582	(X)	-
36943--	Cranking motors.....		(X)	134,672	(X)	82,332
36943 11	Passenger car and light truck type.....	1,000 units.	8,839	108,030	5,735	63,001
36943 31	Heavy-duty truck and bus type.....	..do.....	772	24,754	605	12,341
36943 51	Farm tractor type.....	..do.....	157	1,888	(NA)	6,990
36943 71	Other cranking motors, including aircraft type.....	..do.....	(X)	143,845	(X)	123,064
36944--	Spark plugs.....		(X)	134,660	(X)	123,064
36944 11	Automotive type.....	1,000 units.	528,607	8,901	(NA)	-
36944 31	Aircraft type.....	..do.....	4,354	284	(X)	-
36944 00	Spark plugs, not specified by kind.....	..do.....	(X)	216,533	(X)	<sup>r</sup> 133,797
36945--	Other complete electrical equipment for internal combustion engines.....		(X)	32,743	(X)	<sup>r</sup> 16,658
	Ignition coils:					
36945 11	For automotive vehicles (trucks, buses, and passenger cars)....	1,000 units.	18,354	2,125	<sup>r</sup> 9,637	<sup>r</sup> 3,272
36945 19	Other ignition coils.....	..do.....	786		<sup>r</sup> 1,560	
	Distributors:					
36945 31	Passenger car and light truck type.....	..do.....	9,473	53,886	5,358	28,316
36945 39	Other types.....	..do.....			451	3,122
36945 53	Ignition magnetos (all types).....	No. of units	174,787	17,355	(NA)	15,285
36945 61	Other ignition equipment.....	..do.....	(X)	5,486	(X)	7,327
	Switches specifically designed for use in vehicles and aircraft (all types: starting, lighting, ignition, etc.):					
36945 81	Automotive vehicle switches (trucks, buses, and passenger cars)	1,000 units.	112,825	79,360	112,635	38,901
36945 85	Aircraft switches.....	..do.....	(X)	9,549	(X)	4,721
36945 89	Other vehicle switches.....	..do.....	(X)	11,882	(X)	2,316
36945 98	Other complete electrical equipment units for internal combustion engines and vehicles.....	..do.....	(X)	3,884	(X)	13,879
36945 00	Other complete electrical equipment for internal combustion engines, not specified by kind.....	..do.....	(X)	263	(X)	-
36946--	Components and parts for engine electrical equipment.....		(X)	122,910	(X)	103,325
36946 11	Armatures, field coils, and drive end housings for cranking motors.....	..do.....	(X)	26,838	(X)	16,395
36946 21	Armatures for battery charging generators.....	..do.....				
36946 31	Parts for ignition distributors:					
	Distributor heads and rotors.....	..do.....	(X)	10,086	(X)	3,706
	Breaker point sets:					
36946 51	Contact arms.....	1,000 units.			49,726	15,326
36946 55	Contact supports and screws.....	..do.....	(NA)	49,120	34,926	8,844
36946 71	Condensers.....	..do.....	52,337	13,615	39,934	10,596
36946 98	Other component parts for engine electrical equipment, including field coils for battery charging generators.....	..do.....	(X)	23,177	(X)	48,458
36946 00	Components and parts for engine electrical equipment, not specified by kind.....	..do.....	(X)	74	(X)	-
36940 00	Electrical equipment for internal combustion engines, not specified by kind.....	..do.....	(X)	5,620	(X)	10,574

- Represents zero. (NA) Not available. (X) Not applicable. <sup>1</sup>Revised.<sup>1</sup>Product code 3694111 has been revised to exclude nonignition automotive wiring harness sets. Accordingly, the total for product class 36941 is not comparable with estimates published for 1959-1962 in the Annual Survey of Manufactures. Also, see footnote 3 of table 1.<sup>2</sup>In 1958, automotive type ignition harness sets were included with "all other" (Census product code 3694119) to avoid disclosing operations of individual companies.







# 1963 CENSUS OF MANUFACTURES

MC63(P)-37A-1



INDUSTRY SERIES

preliminary  
report

Truck and bus bodies

SIC Code 3713

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Truck and Bus Bodies Industry had total shipments valued at \$455 million, an increase of 48 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 19 percent from 1958 to a total of 23.8 thousand employees in 1963. Value added by manufacture amounted to \$218 million in 1963, an increase of 50 percent from 1958.

The Truck and Bus Bodies Industry includes establishments engaged primarily in the manufacture

of truck and bus bodies, for sale separately or for assembly on purchased chassis. Establishments primarily engaged in manufacturing complete trucks and busses are classified in Census Industry 3717, and stamped body parts for truck and busses in Industry 3461.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE TRUCK AND BUS BODIES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3713)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	609	208	23,825	129,715	19,192	39,725	95,344	217,823	242,448	455,364	6,380
1958.....	562	187	20,009	91,374	15,938	30,741	65,405	145,608	163,674	307,769	3,627
1954 <sup>3</sup> .....	565	172	19,618	80,380	15,869	31,988	58,192	120,499	136,792	256,883	3,697
1947 <sup>3</sup> .....	603	206	26,646	78,386	22,876	47,209	62,664	127,429	114,868	242,297	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4 digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



## ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

## EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. The figures for production workers, 1954, 1958 and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the figure represents the average of 12 monthly figures.

## VALUE ADDED BY MANUFACTURE

For 1954, 1958 and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

## VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Truck and Bus Bodies Industry consists not only of products described above

as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Truck and Bus Bodies Industry amounted to \$455 million. Of this total, \$52 million were products primary to other industries; and \$54 million were receipts for miscellaneous activities. The industry shipments of primary products represented 87 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 87 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$400 million of truck and bus bodies were shipped by all producers of these products. Of this total, \$350 million, or 87 percent, were shipped by plants classified in Industry 3713, Truck and Bus Bodies, while the remainder was shipped by plants classified in other industries. The 1958 ratio was also 87 percent.

## INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

## GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports



will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE TRUCK AND BUS BODIES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3713)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	609	208	23,825	129,715	19,192	39,725	95,344	217,823	242,448	455,364	6,380	20,009	145,608
New England.....	32	7	414	2,146	332	693	1,584	3,384	3,751	7,151	( <sup>1</sup> )	340	1,787
Middle Atlantic...	122	46	3,723	19,553	3,012	6,182	14,285	28,057	37,047	64,435	740	3,836	29,723
New York.....	45	17	1,202	6,108	941	1,941	4,280	9,213	11,894	20,978	( <sup>1</sup> )	1,848	14,667
New Jersey.....	25	8	673	3,985	565	1,213	3,050	5,157	7,383	12,439	( <sup>1</sup> )	637	6,002
Pennsylvania....	52	21	1,848	9,460	1,506	3,028	6,955	13,687	17,770	31,018	( <sup>1</sup> )	1,351	9,054
East North Central	116	50	10,064	59,056	8,062	16,735	44,271	97,764	101,916	198,384	2,050	8,529	63,594
Ohio.....	34	16	3,783	22,310	2,957	5,902	16,369	37,479	40,929	77,226	719	4,204	32,765
Illinois.....	27	10	980	5,278	811	1,702	3,700	7,572	11,435	19,033	( <sup>1</sup> )	980	6,358
Michigan.....	21	7	1,576	10,311	1,247	2,977	7,715	16,215	11,555	28,108	( <sup>1</sup> )	261	1,827
West North Central	77	26	1,993	10,330	1,579	3,145	7,186	17,152	19,865	36,493	1,759	1,662	12,168
Minnesota.....	18	6	331	1,986	249	496	1,287	3,134	5,208	8,257	( <sup>1</sup> )	240	2,092
Iowa.....	13	3	281	1,156	233	485	881	1,822	2,725	4,526	( <sup>1</sup> )	296	1,951
South Atlantic....	70	22	2,828	13,550	2,318	5,078	9,450	22,335	28,492	49,129	658	2,062	11,500
Virginia.....	11	3	423	2,048	327	761	1,445	3,147	4,930	7,583	( <sup>1</sup> )	232	1,478
Georgia.....	13	5	901	3,903	762	1,593	2,684	5,831	10,241	15,692	( <sup>1</sup> )	700	3,117
East South Central	35	11	1,192	5,387	991	1,997	4,267	12,545	14,320	26,941	( <sup>1</sup> )	781	5,148
Alabama.....	9	2	334	1,422	251	532	1,012	2,610	2,960	5,412	( <sup>1</sup> )	149	1,174
West South Central	40	12	1,162	5,248	973	2,066	3,881	8,978	11,560	20,119	( <sup>1</sup> )	801	6,067
Texas.....	20	7	631	3,087	497	1,096	2,170	5,332	6,645	11,658	( <sup>1</sup> )	436	3,872
West.....	117	34	2,449	14,445	1,925	3,829	10,420	27,608	25,497	52,712	( <sup>1</sup> )	1,998	15,621
California.....	82	23	1,817	10,697	1,431	2,874	7,659	20,799	19,374	39,691	( <sup>1</sup> )	1,642	13,196

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3A.--QUANTITY AND VALUE OF TRUCK, BUS, AND OTHER VEHICLE (EXCEPT PASSENGER CAR) BODIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Truck and Bus Bodies Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3713- --	Truck, bus, and other vehicle (except passenger car) bodies for sale separately (including those made on purchased chassis), and complete vehicles (except passenger cars) produced on purchased chassis total,.....	(X)	400,114	(X)	277,558
37130 12	Truck, bus and other vehicle (except passenger car) bodies sold separately: <sup>1</sup> To motor vehicle manufacturers.....	71,504	46,048	(NA)	14,543
	To other than motor vehicle manufacturers:				
	Truck bodies:				
37130 31	Van.....	29,626	43,322	15,585	22,866
37130 32	Panel delivery and pick up.....	15,625	18,936	6,310	7,646
37130 33	Dump.....	29,230	28,369	21,388	18,079
37130 34	Stake and platform.....	24,062	9,270	19,483	6,768
37130 36	Utility, including service and line construction, and repair types.	27,829	33,615	(NA)	48,628
37130 37	Tank, including street flushing, petroleum, and other tank types...	1,502	5,661		
37130 38	Refuse and garbage (packer type).....	4,863	22,106		
37130 39	Other.....	18,738	22,559		
37130 51	Bus bodies.....	18,270	41,345	20,455	45,202
37130 55	Other vehicle (except passenger car) bodies (ambulance, hearse, fire department, etc.).....	9,081	11,813	(NA)	33,209
	Complete vehicles (except passenger cars) produced on purchased chassis:				
37130 71	Ambulances.....	2,309	15,918	1,134	7,675
37130 75	Hearses and undertakers' vehicles (except limousines).....	1,308	9,788	1,170	9,438
37130 77	Fire department vehicles.....	1,271	13,453	1,038	11,380
37130 79	Busses (body mounted on purchased chassis), including military, but excluding trolley busses.....			2,514	7,920
37130 98	All other highway vehicles, including trucks (platform, stake, van, tank, dump, etc.), street cleaning apparatus, rotary and blow-type snowplows, pick-up sweepers, noncombat amphibious vehicles, etc.....	(X)	41,713	(X)	18,427
37130 99	Vehicles, except passenger cars, produced on purchased chassis (including value of chassis), not specified by kind.....	(X)	10,378	(X)	7,327
37130 00	Truck and bus bodies, not specified by kind.....	(X)	25,820	(X)	18,450

(NA) Not available. (X) Not Applicable.

<sup>1</sup>Truck and bus bodies built by garages, service stations and other establishments primarily engaged in nonmanufacturing activities are excluded.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR TRUCK, BUS, AND OTHER VEHICLE (EXCEPT PASSENGER CAR) BODIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3713-	Truck, bus, and other vehicle (except passenger car) bodies.....1963...	140	132
	.....1958...	99	128

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-37A-2



## INDUSTRY SERIES

preliminary  
report

### Truck trailers

SIC Code 3715

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Truck Trailers Industry had total shipments valued at \$507 million, an increase of 51 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 21 percent from 1958 but a decrease of 7 percent from 1962 to a total of 19 thousand employees in 1963. Value added by manufacture amounted to \$202 million in 1963, an increase of 54 percent from 1958 but a decrease of 8 percent from 1962.

The Truck Trailers Industry includes establishments engaged primarily in the manufacture of truck trailers and truck trailer chassis for sale separately, but not engaged in manufacturing complete trucks and busses.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE TRUCK TRAILERS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3715)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>2</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	192	100	18,918	109,761	15,120	30,305	79,723	202,080	303,857	506,898	5,187	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	20,205	117,329	15,833	31,789	83,029	218,489	325,649	543,804	6,150	5
1961 <sup>2</sup> .....	(NA)	(NA)	17,205	94,260	13,255	26,274	65,792	158,058	247,165	405,403	10,182	4
1960 <sup>2</sup> .....	(NA)	(NA)	18,854	101,564	14,729	29,583	72,725	170,094	267,810	438,548	7,899	3
1959 <sup>2</sup> .....	(NA)	(NA)	20,622	107,127	16,701	35,413	77,990	203,195	304,962	505,418	(10,300)	2
1958.....	170	93	15,669	78,142	12,090	24,564	55,390	131,140	206,258	334,724	5,072	(X)
1954 <sup>3</sup> .....	130	78	16,381	72,904	13,023	26,197	52,352	115,718	200,943	316,832	2,788	(X)
1947 <sup>3</sup> .....	120	(NA)	12,488	36,287	9,741	19,239	25,964	67,570	88,116	155,686	(NA)	(X)
1939 <sup>3</sup> .....	99	(NA)	(NA)	(NA)	3,960	(NA)	5,291	13,626	22,356	35,982	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll period ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954 and 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Truck Trailers Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Truck Trailers Industry amounted to \$507 million. Of this total, \$38 million were products primary to other industries; and \$26 million were receipts for miscellaneous activities. The industry shipments of primary products represented 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 84 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$482 million of truck trailers were shipped by all producers of these products. Of this total, \$444 million, or 92 percent, were shipped by plants classified in Industry 3715, Truck Trailers while the remainder was shipped by plants classified in other industries. The 1958 ratio was 93 percent.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of production, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

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Table 2.—GENERAL STATISTICS FOR THE TRUCK TRAILERS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3715)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	192	100	18,918	109,761	15,120	30,305	79,723	202,080	303,857	506,898	5,187	15,669	131,140
Northeast.....	39	18	3,758	22,068	3,091	6,024	16,227	39,961	64,730	105,054	1,016	1,782	21,855
Pennsylvania....	22	14	3,428	20,530	2,832	5,552	15,174	36,846	60,664	97,615	941	1,333	17,619
East North Central	35	22	5,840	34,905	4,787	9,335	26,312	73,640	100,440	174,082	1,859	4,524	34,322
Illinois.....	8	5	335	2,094	242	508	1,314	3,598	4,031	7,166	516	175	1,470
West North Central	20	14	2,196	12,777	1,593	3,182	8,350	21,694	28,688	49,889	543	2,203	18,523
Iowa.....	5	3	380	2,125	279	590	1,335	4,125	4,937	9,048	(D)	291	2,794
South Atlantic....	13	4	975	4,762	791	1,660	3,400	4,441	14,210	20,013	(1)	1,212	7,507
East South Central	11	7	1,595	7,677	1,265	2,825	5,909	14,881	26,847	41,609	(1)	1,570	9,779
West South Central	25	11	1,885	10,126	1,530	3,219	7,547	18,947	27,131	45,837	594	1,636	13,836
Mountain.....	9	5	478	2,809	367	726	1,966	3,757	6,567	10,228	(1)	344	4,128
Pacific.....	40	19	2,191	14,637	1,696	3,334	10,012	24,759	35,244	60,186	664	2,398	21,190
California.....	28	11	1,641	11,060	1,243	2,462	7,414	18,479	24,970	44,064	(1)	1,918	15,999

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures of individual companies.

<sup>1</sup>Less than \$500 thousand.



Table 3A.—QUANTITY AND VALUE OF TRUCK TRAILERS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Truck Trailers Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3715- --	Truck trailers, total.....	(X)	481,770	(X)	283,998
37150 11	Truck trailers (5 ton capacity and over) as reported in census of manufactures <sup>1</sup> .....	(X)	449,651	(X)	270,521
	Truck trailers (5 ton capacity and over) as reported on Census form M37L <sup>1</sup>	78,764	428,486	50,484	271,733
	Vans, total.....	46,620	261,503	26,198	151,550
	Insulated, semi-insulated, and refrigerated, total.....	8,856	70,418	4,029	30,896
	Steel.....	1,092	6,033	500	3,732
	Aluminum.....	7,764	64,385	3,529	27,164
	Furniture, total.....	2,551	14,227	1,485	6,531
	Steel.....	2,056	11,350	1,325	5,793
	Aluminum.....	495	2,877	160	738
	All other closed-top vans, total.....	31,900	159,913	18,311	101,976
	Steel.....	7,866	35,723	6,189	28,864
	Aluminum.....	24,034	124,190	12,122	73,112
	Open-top, total.....	3,313	16,945	2,373	12,147
	Steel.....	1,128	5,487	1,016	4,690
	Aluminum.....	2,185	11,458	1,357	7,457
	Tank, total.....	5,767	58,259	5,635	47,640
	Non- and low-pressure:				
	Petroleum and aircraft refuelers, total.....	3,428	33,087	4,010	31,047
	Carbon and alloy steel (except stainless).....	1,002	7,314	2,329	15,158
	Stainless steel.....	382	5,156	227	2,550
	Aluminum.....	2,044	20,617	1,454	13,339
	Chemical, food and sanitary.....	713	8,030	545	6,009
	Dry materials (cement, flour, feed, fertilizer, etc.).....	1,188	11,318	704	6,155
	High pressure (LPG, anhydrous ammonia, chemicals, etc.).....	438	5,824	376	4,429
	Pole and logging, total.....	1,069	3,927	927	2,577
	Single axle.....	129	220	318	424
	Tandem axle.....	940	3,707	609	2,153
	Platform, total.....	12,516	47,816	8,868	32,078
	Racks, livestock and stake.....	591	3,074	1,442	6,556
	Grain bodies, all types.....	578	2,503	1,073	3,718
	Platforms (flats), all types.....	11,347	42,239	6,353	21,804
	Low-bed heavy haulers.....	3,195	14,566	2,301	9,779
	Dump trailers.....	2,733	16,290	2,548	11,401
	All other trailers <sup>2</sup> .....	1,524	7,729	2,030	9,502
	Detachable trailer van bodies, sold separately.....	5,340	18,396	1,977	7,206
37150 51	Truck trailer chassis only, for sale separately, as reported in census of manufactures <sup>1</sup> .....	(X)	10,168	(X)	(X)
	Truck trailer chassis only, for sale separately, as reported on Census Form M37L.....	4,161	9,956	3,244	8,362
	Dump trailer chassis, sold separately.....	361	1,241	(NA)	(NA)
	Trailer chassis only, sold separately.....	3,800	8,715	3,244	8,362
37150 55	Truck trailers and truck trailer chassis with axles rated less than 10,000 pounds.....	6,952	10,468	6,230	13,477
37150 00	Truck trailers, not specified by kind.....	(X)	11,483	(X)	-

- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>For these products, figures were also collected in the Bureau of the Census commodity survey program. In lieu of asking for detailed statistics on these products in the census of manufactures, respondents were asked to report only value of shipments for specified groups of products for which separate figures had previously been collected in the commodity survey. In most cases, the value figures reported in the census of manufactures for each group of products agreed closely with the corresponding figures reported in the commodity survey. However, there were minor differences between the census figures and the commodity survey figures. These variations were due primarily to the following reasons:

- Better coverage in the Census of Manufactures program. This includes many small establishments excluded from the monthly survey.
- Use of different reporting periods (calendar year vs. fiscal year).
- Use of estimates in reporting figures on the commodity survey, whereas census of manufactures figures generally represent more exact shipment figures.

<sup>2</sup>Includes small capacity trailers of special construction for the Defense Department, as well as auto transport, public utility trailers, converter dollies, and hoppers.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR TRUCK TRAILERS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3715-	Truck trailers.....1963...	151	116
	.....1958...	96	113



# 1963 CENSUS OF MANUFACTURES

MC63(P)-37A-3



INDUSTRY SERIES

preliminary  
report

## Motor vehicles and parts

SIC Code 3717

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Motor Vehicles and Parts Industry had total shipments valued at \$36,149 million, an increase of 73 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 19 percent from 1958

Table 1.—GENERAL STATISTICS FOR THE MOTOR VEHICLES AND PARTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3717)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments <sup>1</sup> (\$1,000)	Capital expend- itures, new <sup>2</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>3</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,950	903	649,401	4,942,953	535,381	1,192,312	3,887,840	12,289,645	23,893,546	36,148,831	641,802	(X)
1962 <sup>r</sup> 3 4	(NA)	(NA)	628,386	4,465,378	517,189	1,110,236	3,483,972	11,110,932	21,573,772	32,673,777	492,177	4
1961 <sup>r</sup> 3 4	(NA)	(NA)	569,619	3,779,955	460,339	945,118	2,881,527	8,541,738	17,198,955	25,847,658	381,601	3
1960 <sup>r</sup> 3 4	(NA)	(NA)	658,148	4,319,876	540,751	1,131,519	3,378,315	9,717,429	20,312,551	30,110,144	462,402	3
1959 <sup>r</sup> 3 4	(NA)	(NA)	599,912	3,914,529	489,423	1,057,969	3,019,106	8,915,412	17,913,691	26,712,803	386,609	1
1958 <sup>r</sup> 4...	1,560	753	546,037	3,169,173	433,982	858,440	2,374,447	6,504,510	14,188,996	20,830,059	334,068	(X)
1954 <sup>4</sup> 5...	1,226	649	649,274	3,214,827	545,359	1,125,912	2,569,419	5,901,436	( <sup>5</sup> )	( <sup>5</sup> )	722,199	(X)
1947 <sup>4</sup> 5...	951	(NA)	645,067	2,039,872	552,055	1,102,482	1,666,913	3,544,924	( <sup>5</sup> )	( <sup>5</sup> )	269,720	(X)

(NA) Not available. (X) Not applicable. <sup>r</sup> Revised.

<sup>1</sup>Includes extensive duplication arising from shipments between establishments in the same industry classification.

<sup>2</sup>Includes expenditures for plants under construction but not in operation.

<sup>3</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>4</sup>A revision in the definition of this industry was made in the 1963 Supplement to the 1957 edition of the Standard Industrial Classification, reclassifying establishments primarily manufacturing automotive wiring harness sets other than ignition, from Industry 3694, "Engine Electrical Equipment" to Industry 3714 (Census Industry 3717). The statistics for 1958-1962 have been revised to take this reclassification into account. The data for 1954 and 1947 could not be revised to conform with this reclassification. Further, the 1954 and 1947 data are not strictly comparable with 1958-1963 because of changes introduced in the 1957 Standard Industrial Classification. However, the degree of non-comparability is less than 5 percent.

<sup>5</sup>Data for Alaska and Hawaii are not included.

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U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, A. Ross Eckler, Director



and 3 percent from 1962 to a total of 649 thousand employees in 1963. Value added by manufacture amounted to \$12,290 million in 1963, an increase of 88 percent from 1958 and 10 percent from 1962.

The Motor Vehicles and Parts Industry includes establishments engaged primarily in the manufacture or assembly of complete passenger automobiles, car bodies, trucks, commercial cars and busses (except trackless trolleys-Industry 3742), special purpose motor vehicles and motor vehicle parts and accessories. Establishments primarily engaged in manufacturing truck and bus bodies and assembling them on purchased chassis are classified in Industry 3713; motorcycles in Industry 3751; wheel type tractors, except contractors' off-highway types in Industry 3522; track laying tractors in Industry 3531; and combat tanks in Industry 1931.

In this report, based on the 1963 Census of Manufactures, as in 1958, the three Standard Industrial Classification Industries (3711, 3712, and 3714) have been combined because of a major problem of defining the reporting unit in terms of these industries. This difficulty arises from the fact that many large establishments have integrated operations which include the production of parts or bodies and the assembly of complete vehicles at the same location.

Included in Industry 3717 are such parts as passenger-car bodies, motor vehicle engines (except Diesel), brakes, clutches, axles, radiators, differentials, transmissions, wheels and frames, windshield wipers, automotive bumpers, camshafts, connecting rods, crankshaft assemblies, cylinder heads, drive shafts, exhaust systems, fuel systems, heaters, hoods, horns, instrument board assemblies, lubrication systems, mufflers, power-transmission equipment, rear-axle housings, shock absorbers, steering mechanisms, tops (except stamped metal), universal joints, wheel rims, windshield frames, and automobile accessories, not elsewhere classified. A considerable number of components, parts and accessories for motor vehicles are not classified in Industry 3717 but are classified in other Standard Industrial Classification industries based on the characteristic of the product itself rather than the use to which it is put. Among the more important of these are automotive hardware, Industry 3429, Hardware, N.E.C.; automotive stampings, Industry 3461, Metal Stampings; Diesel and semi-Diesel engines, Industry 3519, Internal Combustion Engines; sealed beam and other electric lamps, Industry 3641, Electric Lamps (Bulbs); motor vehicle lighting fixtures, Industry 3642, Lighting Fixtures; bearings, Industry 3566, Mechanical Power-Transmission Equipment; tires and inner tubes, Industry 3011, Tires and Inner Tubes; automobile glass, Industry 3211, Flat Glass; ignition equipment such as spark plugs, distributors, switches, ignition coils, generators, cranks, motors, etc., Industry 3694, Engine Electrical Equipment; storage batteries, Industry 3691, Storage Batteries; automobile radios, Industry 3651, Radios and Related Products; and carburetors and pistons, Industry 3599, Machine Shops.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing

establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. The figures for production workers, 1954 and 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in



the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

Data on cost of materials and value of shipments of the Motor Vehicle and Parts Industry include extensive duplication resulting from the transfer of motor vehicle parts to establishments producing complete motor vehicles. The value of such shipments are duplicated in the total value of shipments. A corresponding duplication enters into the total cost of materials. The data shown for value added by manufacture (value of shipments less cost of materials, etc.) avoid this duplication.

In view of the duplication in value of shipments, the exact "Primary product specialization ratio" and the exact "coverage ratio" for this industry have not been computed.

#### REPLACEMENT PARTS

Manufacturers' shipments of replacement parts for passenger cars, trucks, busses, and trailers during 1963 amounted to \$2,327 million. The comparable 1958 figure was \$1,639 million. These figures include parts made by establishments classified in the Motor Vehicles and Parts Industry as well as parts classified as primary products of other industries. They include the value of motor vehicle replacement parts such as spark plugs, ignition coils, storage batteries, carburetors, pistons and piston rings, headlights, fan belts, springs, hardware, mufflers, radiators and cores, water and fuel pumps, wheels, universal joints, cylinder heads, hub and drum assemblies, transmissions, shock absorbers, rear axle shafts, and clutch disc and facing assemblies.

These figures represent the shipments of these parts by parts manufacturers to other than motor vehicle manufacturers and shipments of replacement parts by motor vehicle manufacturers including parts which they purchased and resold in the same condition. No duplication is involved since parts manufacturers reported separately parts shipped to motor vehicle manufacturers and the latter figure is not included in this total. Value of shipments of tires and tubes and motor vehicle accessories such as radios, heaters, etc., are not included in this figure.

In order to arrive at an aggregate value for replacement parts without duplication, establishments producing replacement parts but not engaged in manufacturing complete vehicles were requested to exclude from their shipments data on replacement parts all shipments to motor vehicle producers. Motor vehicle producers that reshipped such replacement parts were requested to report the value of these shipments, even though the parts were not made by such companies. The value of replacement parts in 1963 totaled the \$2,327 million referred to above.

Table 4 shows data for 1963 and 1958 on the total production of selected motor vehicle parts and the use of such parts in the assembly of new vehicles as well as the use of these parts for replacement and export. These data are not a precise measure of the sale of replacement parts in the United States since they include shipments of parts for export and are affected by inventory changes of parts during the year by both producers of parts and assemblers of vehicles.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.



## 1963 CENSUS OF MANUFACTURES

Table 2.—GENERAL STATISTICS FOR THE MOTOR VEHICLES AND PARTS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3717)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,950	903	649,401	4,942,953	535,381	1,192,312	3,887,840	12,289,645	23,893,546	36,148,831	641,802	546,037	6,504,510
New England.....	66	23	6,707	41,818	5,425	12,100	31,408	106,504	232,821	339,005	4,505	5,461	50,627
Connecticut.....	16	7	3,177	18,051	2,558	5,184	13,288	27,366	34,790	61,520	1,236	2,419	22,772
Middle Atlantic...	214	95	64,022	492,448	51,334	114,816	380,469	1,165,368	2,361,455	3,518,827	63,646	63,312	747,798
New York.....	94	43	38,262	296,060	31,029	70,249	231,781	623,736	1,116,962	1,737,790	38,387	33,082	354,116
East North Central	795	474	479,630	3,673,389	398,249	877,714	2,912,293	8,434,516	14,784,366	23,182,283	434,836	400,160	4,543,441
Ohio.....	181	122	106,013	796,804	88,113	191,994	633,695	1,816,940	2,819,972	4,639,872	77,479	82,294	933,006
Indiana.....	108	67	56,962	394,700	46,558	95,127	304,833	734,735	982,703	1,730,305	34,572	43,577	507,461
Michigan.....	331	199	260,918	2,085,980	215,571	488,478	1,649,187	4,881,103	9,035,459	13,870,426	286,929	229,200	2,572,339
West North Central	115	54	29,523	229,750	24,354	57,402	180,060	841,367	2,242,326	3,095,765	37,741	22,740	405,032
Iowa.....	17	8	526	2,656	459	954	2,100	7,268	7,039	14,074	549	613	4,415
South Atlantic....	139	48	25,549	199,240	20,779	49,926	154,363	722,172	1,871,686	2,588,191	21,710	19,327	300,078
East South Central	62	42	9,930	57,982	8,086	17,863	41,123	252,700	347,754	597,544	9,738	7,196	95,330
Alabama.....	12	6	846	4,083	753	1,565	2,105	8,512	8,842	17,072	(1)	540	5,049
Mississippi.....	8	7	1,523	7,025	1,246	2,614	4,726	16,419	12,936	27,596	979	962	5,693
West South Central	153	46	7,638	52,787	6,255	15,220	40,336	189,982	404,942	592,435	10,599	5,078	76,499
Oklahoma.....	27	7	1,201	6,237	994	2,201	4,673	17,250	9,177	25,586	4,663	403	4,286
Mountain.....	62	12	925	4,827	740	1,472	3,380	9,254	8,848	16,750	1,665	470	3,121
Pacific.....	344	109	25,477	190,712	20,159	45,799	144,408	567,782	1,639,348	2,218,031	57,362	22,293	282,584
California.....	307	101	23,100	175,378	18,380	42,418	133,543	540,126	1,583,829	2,135,331	55,630	20,778	268,475

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Revised.

<sup>2</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF MOTOR VEHICLES AND PARTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Motor Vehicles and Parts Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3717- --	Motor vehicles and parts.....	(X)	135,406,237	(X)	119,863,333
37171 --	Passenger cars, knocked down or assembled and chassis for sale separately.....	(X)	16,678,713	(X)	9,217,694
37171 11	Complete vehicles, knocked-down or assembled <sup>2</sup> .....	7,567,368	16,678,713	{ 4,204,203 (NA)	9,212,591
37171 51	Chassis for sale separately.....				
37172 --	Truck tractors, truck chassis and trucks (chassis of own manufacture)....	(X)	3,368,409	(X)	1,933,722
	Trucks, truck tractors, and truck chassis, knocked down or assembled: <sup>3</sup>				
	Basic chassis, gross vehicle weight: <sup>4</sup>				
37172 01	6,000 pounds and less.....	876,177	1,197,933	{ 584,619	757,596
37172 03	6,001-10,000 pounds.....	178,654	302,152		
37172 13	10,001-14,000 pounds.....	24,275	46,836	64,560	117,417
37172 14	14,001-16,000 pounds.....				
37172 15	16,001-19,500 pounds.....	116,565	263,500	79,696	154,040
37172 16	19,501-26,000 pounds.....	109,912	353,166	44,738	142,189
37172 17	26,001-33,000 pounds.....	27,775	219,024	{ 58,515	429,376
37172 18	Over 33,000 pounds.....	47,285	467,135		
	Truck bodies and other bodies (except bus and fire apparatus) and equipment billed with basic chassis:				
	Truck bodies:				
37172 33	Panel delivery and pick-up <sup>4</sup> .....	725,308	186,042	{ (X)	318,276
37172 36	Other <sup>4</sup> .....	294,538	296,028		
37172 39	Other bodies and equipment (except bus and fire apparatus) <sup>4</sup> .....	(X)	35,181		
37172 51	Other highway vehicles (except bus and fire apparatus) on chassis of own manufacture including non-combat amphibious vehicles.....	102	665	(NA)	14,828
37172 00	Truck trailers and other bodies (except bus and fire apparatus) and equipment billed with basic chassis, not specified by kind.....	(X)	747	(X)	

See footnotes at end of table.

Table 3.—QUANTITY AND VALUE OF MOTOR VEHICLES AND PARTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
37173 --	Busses (except trolley busses) and fire department vehicles (chassis of own manufacture).....	(X)	178,799	(X)	99,216
37173 13	Busses (body mounted on chassis of own manufacture) including military, but excluding trolley busses.....	(NA)	153,036	3,311	81,018
37173 15	Busses (consisting of integrally constructed body-chassis frame usually rear-engine mounted).....	1,468	25,763	1,262	18,198
37173 21	Fire department vehicles <sup>5</sup> .....				
37174 11	Combat vehicles, wheeled tactical vehicles or carriers.....	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )
37175 --	Parts and accessories shipped to motor vehicle manufacturers for passenger cars, trucks, busses, and trailers (excluding rough steel forgings, rough castings and accessories such as leaf and coil springs, meters for motor vehicles, radios, distributors, generators and alternators, cranking motors, and selected motor vehicle indicating instruments).....	(X)	12,987,263	(X)	7,326,660
37175 15	Shipped to other plants of the same company <sup>7</sup> .....	(X)	10,094,789	}	7,305,567
37175 17	Shipped to other motor vehicle manufacturers <sup>7</sup> .....	(X)	210,315		
37175 71	Shipped to motor vehicle and parts manufacturers (including shipments to producers of motor vehicles (passenger cars, trucks, busses, truck trailers, and trailer coaches) and of bodies, parts, and accessories, including other plants of the same company) <sup>8</sup> .....	(X)	2,644,516		
37175 81	Automotive gasoline engines, new <sup>9</sup> .....	(X)	30,935	(X)	17,512
37175 00	Parts and accessories shipped to motor vehicle manufacturers for passenger cars, trucks, busses and tractors, not specified by kind....	(X)	6,708	(X)	3,581
37176 --	Parts and accessories for passenger cars, trucks and busses shipped to other than motor vehicle manufacturers.....	(X)	91,762,298	(X)	91,140,806
37176 11	Replacement parts and accessories for cars, trucks, busses, and trailers for domestic use, including purchased parts. (Includes shipments to distributors, dealers, jobbers, wholesalers, service stations, direct to fleet operators, governments and other consumers of motor vehicles, and subassembly rebuilders other than motor vehicle and motor vehicle parts manufacturers who also rebuild subassemblies. Does not include interplant transfers within a company; shipments to motor vehicle, body, parts, and accessory manufacturers; or export shipments of any kind, including bodies for mounting on old chassis) <sup>7</sup>	(X)	866,911	(X)	542,786
37176 15	Convertible tops for automobiles <sup>8</sup> .....	(X)	22,892	(X)	( <sup>10</sup> )
37176 21	Export shipments of parts and accessories for passenger cars, trucks, busses, and trailers, including purchased parts <sup>7</sup> .....	(X)	79,085	(X)	85,672
37176 31	Other parts and accessories for passenger cars, trucks, busses, and trailers <sup>8</sup> .....	(X)	759,081	(X)	439,623
37176 00	Replacement parts and accessories for cars, trucks, busses, and trailers for domestic use, including purchased parts, not specified by kind.....	(X)	34,329	(X)	1072,725
37177 11	Rebuilt motor vehicle engines and parts (except carburetors) <sup>9</sup> .....	(X)	180,262	(X)	79,891
37170 00	Motor vehicle parts, not specified by kind.....	(X)	6250,493	(X)	665,344

- Represents zero. (NA) Not available. (X) Not applicable. <sup>T</sup>Revised.

<sup>1</sup>The total value of shipments of products classified in Industry 3717 includes extensive duplication arising from shipments between establishments in the same industry classification.

<sup>2</sup>Includes station wagons, ambulances, hearses, and taxicabs if produced on passenger car chassis. Value includes extra equipment billed with vehicles.

<sup>3</sup>Includes trucks such as pick-up, sedan delivery, panel, or other commercial cars made on passenger car chassis if these chassis were of own manufacture. Includes station wagons, hearses, and taxicabs if produced on truck chassis. Includes all truck chassis whether or not to be used for transportation of property, such as fire apparatus, street sprinklers, school busses, ambulances, etc. Excludes specialized road construction machinery and off-the-highway trucks.

<sup>4</sup>The sum of values reported for basic chassis and bodies (codes 3717201 through 3717218) and bodies and other equipment billed with basic chassis (codes 3717233, 3717236, and 3717239) represents the total value received from the sale of trucks, truck tractors, and truck chassis. Amounts reported for basic chassis values are based on average wholesale prices realized during 1963 and 1958. The amount reported for bodies and other equipment billed with basic chassis represents (1) the value received for bodies and other equipment shipped with the basic chassis; and (2) any plus or minus differences not included in the amounts reported for basic chassis due to the use of average wholesale prices for computing the values of the basic chassis.

<sup>5</sup>Separate figures are shown for fire department vehicles produced on purchased chassis (code 3713077) and for fire department vehicles produced on chassis of own manufacture (code 3717321). A small number of fire department vehicles, however, are produced on chassis furnished by customers.

<sup>6</sup>Product code 3717411 combined with 3717000 for security reasons, on advice from the Bureau of the Budget.

<sup>7</sup>Data are limited to establishments of companies producing motor vehicles or bodies.

<sup>8</sup>Data are limited to establishments of companies which do not produce motor vehicles or bodies.

<sup>9</sup>This figure is limited to shipments of products classified in Industry 3717. There were additional shipments of motor vehicle parts by parts producers to other than motor vehicle manufacturers. This includes spark plugs, ignition coils, storage batteries, carburetors, pistons and piston rings, headlights, springs, and hardware which are classified outside the 3717 grouping and which approximated \$564 million in 1963 and \$498 million in 1958. Therefore, the total for 1963 was \$2,327 million. The comparable 1958 total was \$1,639 million (revised).

<sup>10</sup>For 1958, product code 3717615 is combined with product code 3717600.



Table 4.—PRODUCTION AND USE OF SELECTED PARTS FOR PASSENGER CARS, TRUCKS, AND BUSES: 1963 AND 1958

Product	Total number of units (1,000)					
	1963			1958		
	Produced <sup>1</sup>	Used in assembly of new vehicles	For replacement, export, and other purposes <sup>2</sup>	Produced <sup>1</sup>	Used in assembly of new vehicles	For replacement, export, and other purposes <sup>2</sup>
Engines, new (with or without cylinder heads, fuel pumps, water pumps, and other standard accessories):						
*Gasoline.....	9,584	8,922	662	5,370	5,032	338
*Diesel and semi-diesel <sup>3</sup> .....	63	59	4	31	25	6
Cylinder heads.....	13,611	13,298	313	(NA)	(NA)	(NA)
Pistons:						
*Aluminum.....	89,457	64,745	24,712	(NA)	(NA)	(NA)
*All other.....	3,392	617	2,775	(NA)	(NA)	(NA)
Piston rings:						
*Oil type.....	176,758	72,916	103,842	135,312	37,295	98,017
*Compression.....	544,616	144,449	400,167	307,897	73,035	234,862
*Valves (intake and exhaust).....	177,530	130,724	46,806	(NA)	(NA)	(NA)
*Carburetors.....	15,434	9,041	6,393	9,750	5,032	4,718
Fuel pump assemblies (excluding kits and rebuilds).....	13,069	8,981	4,088	9,468	5,057	4,411
Water pump assemblies (excluding kits and rebuilds).....	10,593	8,683	1,910	6,875	5,057	1,818
Radiators, complete.....	9,008	8,683	325	5,351	5,057	294
*V-belts.....	45,399	23,315	22,084	(NA)	(NA)	(NA)
Oil filter elements.....	157,180	8,922	148,258	99,377	5,032	94,345
Exhaust systems:						
Mufflers <sup>4</sup> .....	33,343	11,521	21,822	30,686	6,946	23,740
Muffler tail pipes <sup>5</sup> .....	61,884	19,597	42,287	29,059	6,946	22,113
Transmissions (except auxiliary):						
Passenger car type:						
Conventional transmissions.....	2,261	1,952	309	1,174	1,038	136
Automatic transmissions (including semi-automatic).....	6,049	5,671	378	3,383	3,224	159
Truck and bus type:						
Conventional transmissions.....	1,354	1,277	77	983	916	67
Automatic transmissions (including semi-automatic).....	107	81	26	49	22	27
Clutch disc and facing assemblies.....	14,305	3,229	11,076	8,932	1,954	6,978
Universal joints.....	25,271	20,418	4,853	13,904	11,569	2,335
Rear axle shafts.....	17,715	17,030	685	9,940	9,304	636
Wheels for passenger cars.....	40,439	38,832	1,607	28,707	22,101	6,606
Wheels for trucks and busses.....	8,197	7,102	1,095	(NA)	(NA)	(NA)
Shock absorbers.....	48,106	34,016	14,090	(NA)	(NA)	(NA)
*Ignition coils <sup>3</sup> .....	18,354	8,922	9,432	9,637	5,032	4,605
*Spark plugs <sup>3</sup> .....	528,607	65,362	463,245	396,064	38,040	358,024
Regulators for battery charging generators:						
*Passenger car and light truck type.....	14,686	8,474	6,212	10,237	4,740	5,497
*Heavy duty truck and bus types.....	1,448	507	941	1,121	409	712
*Condensers.....	54,725	15,425	39,300	39,934	6,830	33,104
Breaker point sets:						
*Contact arms.....	102,268	8,852	93,416	49,726	3,690	46,036
*Contact supports and screws.....	(NA)	8,852	(NA)	34,926	3,690	31,236
*Headlights, sealed beam units.....	78,569	38,519	40,050	53,050	19,724	33,326

(NA) Not available. <sup>2</sup>Revised.<sup>1</sup>These products are classified in industries other than Industry 3717.<sup>2</sup>For those products classified in Industry 3717 production figures exclude units produced by establishments in other industries. Although it is not possible to precisely measure the effect of this undercoverage it is believed to be minor for most products.<sup>3</sup>The number of motor vehicle parts for the replacement, export and other markets was derived from the figures on "Total number of units produced" reported by parts producers and motor vehicle manufacturers and the figure on "Total number of units used in the assembly of new vehicles" reported by motor vehicle producers. Only new parts are included; rebuilt engines, carburetors, etc., are excluded. For those products classified in industries other than Industry 3717, these figures may include parts not specifically suitable for use in motor vehicles (passenger cars, trucks, and busses). For those products classified in Industry 3717, such parts are excluded.<sup>4</sup>For these products, total number of units shipped were used instead of total number of units produced.<sup>5</sup>In 1963 this product was described as "mufflers, including regular or standard, sports or glass pack and resonators."<sup>6</sup>In 1963 this product was described as "pipes, including exhaust, tail, intermediate, connecting and crossover."



# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-37B-1



## INDUSTRY SERIES

preliminary  
report

Aircraft

SIC Code 3721

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Aircraft Industry performed work and had other receipts valued at \$6,294 million, a decrease of 2 percent from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 20 percent from 1958 and 8 percent from 1962 to a total of 302 thousand employees in 1963. Value added by manufacture amounted to \$3,522 million in 1963, an increase of 4 percent from 1958 and 5 percent from 1962.

The Aircraft Industry includes establishments engaged primarily in the manufacture or assembling of complete aircraft. This industry also includes establishments primarily engaged in factory type aircraft modification on a contract or fee basis. Establishments primarily engaged in manufacturing engines, propellers, and other aircraft parts and auxiliary equipment are classified in Industries 3722, 3723, and 3729.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.—GENERAL STATISTICS FOR THE AIRCRAFT INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3721)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture <sup>1</sup>	Cost of materials	Value of work done	Capital expend- itures, new <sup>2</sup>	Standard error of estimate (percent) for number of employees column <sup>3</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	98	64	301,584	2,263,781	166,167	340,933	1,075,756	3,521,534	2,772,763	6,294,297	114,340	(X)
1962.....	(NA)	(NA)	326,140	2,468,712	180,369	378,192	1,131,358	3,363,486	2,842,279	6,205,647	119,655	3
1961.....	(NA)	(NA)	305,435	2,205,508	172,942	351,726	1,023,524	3,046,923	2,953,275	6,000,080	71,816	2
1960.....	(NA)	(NA)	302,428	2,084,943	177,567	366,374	1,043,943	3,044,749	2,874,174	5,920,180	62,755	2
1959.....	(NA)	(NA)	369,253	2,419,610	225,581	461,834	1,248,162	3,305,013	3,503,653	6,808,666	89,695	1
1958.....	127	82	377,383	2,340,306	251,249	508,195	1,334,705	3,399,163	3,038,904	6,438,067	94,167	(X)
1954.....	72	69	457,618	2,277,320	320,445	654,781	1,441,632	3,368,747	3,193,829	6,562,576	59,446	(X)
1947.....	58	50	146,625	462,906	110,332	221,796	316,795	605,983	( <sup>5</sup> )	( <sup>5</sup> )	(NA)	(X)
1939.....	44	(NA)	(NA)	(NA)	34,159	(NA)	52,813	112,343	( <sup>5</sup> )	( <sup>5</sup> )	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>For the period 1954 and 1958-1963, the adjusted value added figure for the Aircraft Industry has not been adjusted for the change in inventory between the beginning and end of the year, since the figures reported by establishments in this industry are value of work done rather than value of shipments. It does include the value added by resales. For prior years this figure is unadjusted value added.

<sup>2</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>3</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>4</sup>Data for Alaska and Hawaii are not included.

<sup>5</sup>Total cost of materials and total value of shipments are not shown since these figures are not comparable to those of later years.

June 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954 and 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

Value added for this industry is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of work done on aircraft, the value of shipments for secondary products manufactured, plus receipts for services rendered.

Value added avoids the duplication in the value of work done which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF WORK DONE

The value of work done and other receipts reported by establishments classified in the Aircraft Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of work done and other receipts of establishments classified in the Aircraft Industry amounted to \$6,294 million. Of this total, \$1,793 million were products primary to other industries; and \$253 million were receipts for miscellaneous activities. The industry shipments of primary products represent 70 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 81 percent.

The total value of work done and other receipts for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$4,305 million of receipts for work performed on aircraft was reported by all producers of these products. Of this total, \$4,249 million, or 99 percent, was performed by plants classified in Industry 3721, Aircraft, while the remainder was performed by plants classified in other industries. The 1958 ratio was 93 percent.

In Industry 3721 there is usually a significant difference between value of actual physical shipments and value of work done during a specified period. This is primarily due to lead time between the input of materials and labor and the shipments of completed aircraft. In evaluating the internal relationships of the Aircraft Industry, such as the ratio of cost of materials or payrolls to output, the value of aircraft shipments for the year is generally not meaningful and value of work done is therefore substituted. For the 1963 Census of Manufactures, establishments producing military and commercial aircraft were requested to report both the value of shipments of aircraft and value of work done during the year. This latter statistic included total costs (materials, labor, overhead, etc.) and reflected the value of work done during 1963, including work done on aircraft not accepted during the year, but excluding the value of work done in prior years.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE AIRCRAFT INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3721)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of work done (\$1,000)	Capital expend- itures, new (\$1,000)	All employ- ees, number	Value added by manufac- ture (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	98	64	301,584	2,263,781	166,167	340,933	1,075,756	3,521,534	2,772,763	6,294,297	114,340	377,383	3,399,163
Northeast.....	17	12	58,972	475,013	35,283	72,528	243,732	699,303	537,884	1,237,187	32,118	42,713	380,979
North Central.....	12	9	50,504	380,975	31,290	65,883	195,229	519,783	597,395	1,117,178	25,829	70,125	548,785
South.....	35	25	59,578	439,281	34,856	71,447	218,293	572,522	496,361	1,068,883	14,155	90,986	807,008
West.....	34	18	132,530	968,512	64,738	131,075	418,502	1,729,926	1,141,123	2,871,049	42,238	173,559	1,662,391

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.--QUANTITY AND VALUE OF WORK DONE ON AIRCRAFT BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Aircraft Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Work Done")

Product code	Product	Total value of work done and shipments of complete aircraft <sup>1</sup>			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3721- --	Aircraft.....	(X)	( <sup>1</sup> )	(X)	( <sup>1</sup> )
	Total value of work done <sup>2</sup> .....	(X)	4,305,213	(X)	5,362,680
37211 10	Value of work done on aircraft, military type, for United States military customers, excluding modifications, conversions, and other aeronautical services.....	(X)	2,471,632	(X)	3,501,650
37212 13	Value of work done on aircraft, personal type, for other than United States military customers, excluding modifications conversions, and other aeronautical services.....	(X)	150,001	(X)	988,237
37213 13	Value of work done on aircraft, complete commercial transport type for other than United States military customers, excluding modifications, conversions, and other aeronautical services.....	(X)	561,124		
37214 --	Modifications, conversions, and overhaul of previously accepted aircraft.....	(X)	468,397	(X)	298,800
37214 11	For United States military customers.....	(X)	430,855	(X)	286,265
37214 51	For other than United States military customers.....	(X)	37,542	(X)	12,535
37216 --	Other aeronautical services (including research and development on aircraft).....	(X)	654,059	(X)	573,993
37216 11	For United States military customers.....	(X)	606,379	(X)	519,476
37216 51	For other than United States military customers.....	(X)	47,680	(X)	54,517
37219 --	Total value of shipments <sup>1</sup> .....	(X)	2,828,003	(X)	3,755,870
	Aircraft, complete, accepted during the year:				
37219 10	For United States military customers (including airplanes, balloons, helicopters, and autogiros).....	(X)	2,138,951	(X)	3,255,741
	For other than United States military customers (including airplanes, balloons, helicopters, and autogiros) <sup>3</sup> .....	8,203	689,052	6,882	500,129
37219 11	Personal and utility type.....	7,927	175,566	6,882	500,129
37219 12	Commercial transport type.....	276	513,486		
37210 00	Aircraft, not specified by kind.....	(X)	4,482	(X)	-

- Represents zero. (X) Not applicable.

<sup>1</sup>Total value of shipments figure for aircraft differs from value of work done. See text for explanation of differences.

<sup>2</sup>Data for value of work done, including modifications, conversions, and overhaul of previously accepted aircraft, and other aeronautical services (including research and development on aircraft), represent receipts, billings, or value of work done.

<sup>3</sup>Statistics on shipments of complete civilian aircraft were collected monthly and published in Current Industrial Reports Series M37G. The figures reported in that survey for 1963 were as follows: quantity, 8,155 units; value, \$685,936 thousand.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-37B-2



INDUSTRY SERIES

preliminary  
report

## Aircraft engines and parts

SIC Code 3722

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Aircraft Engines and Parts Industry had total shipments valued at \$4,048 million, an increase of 15 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 19 percent from 1958 and 6 percent from 1962 to a total of 190 thousand employees in 1963. Value added by

manufacture amounted to \$2,199 million in 1963, an increase of 36 percent from 1958 and 11 percent from 1962.

The Aircraft Engines and Parts Industry includes establishments engaged primarily in the manufacture of aircraft engines and engine parts.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.—GENERAL STATISTICS FOR THE AIRCRAFT ENGINES AND PARTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3722)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	231	171	189,921	1,479,326	103,485	217,062	682,766	2,198,945	1,870,508	4,047,983	115,891	(X)
1962.....	(NA)	(NA)	178,635	1,331,068	103,049	216,042	645,986	1,984,030	1,686,604	3,660,522	78,487	3
1961 <sup>2</sup> .....	(NA)	(NA)	162,877	1,162,559	94,068	197,606	571,305	1,759,264	1,507,035	3,242,436	54,379	2
1960 <sup>2</sup> .....	(NA)	(NA)	165,766	1,144,770	94,600	197,341	556,571	1,633,040	1,473,211	3,094,887	46,685	2
1959 <sup>2</sup> .....	(NA)	(NA)	171,756	1,158,468	101,197	212,904	581,880	1,813,745	1,676,619	3,507,128	64,093	1
1958.....	223	175	159,094	999,237	94,531	194,858	509,724	1,615,671	1,719,082	3,512,073	55,883	(X)
1954 <sup>3</sup> .....	202	234	167,383	819,181	117,277	243,536	522,850	1,435,443	1,753,507	3,268,863	46,689	(X)
1947 <sup>3</sup> .....	(NA)	59	50,423	166,308	36,019	(NA)	110,716	252,254	212,369	464,623	(NA)	(X)
1939 <sup>3</sup> .....	(NA)	20	(NA)	(NA)	9,445	(NA)	17,041	50,928	31,276	82,204	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

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(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954 and 1958, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Aircraft Engine and Parts Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Aircraft Engines and Parts Industry amounted to \$4,048 million. Of this total, \$481 million were products primary to other industries; and \$227 million were receipts for miscellaneous activities. The industry shipments of primary products represent 87 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 94 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$3,577 million of aircraft engines and parts were shipped by all producers of these products. Of this total, \$3,340 million, or 93 percent, were shipped by plants classified in Industry 3722, Aircraft Engines and Parts, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 95 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary



reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE AIRCRAFT ENGINES AND PARTS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3722)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	231	171	189,921	1,479,326	103,485	217,062	682,766	2,198,945	1,870,508	4,047,983	115,891	159,094	1,615,671
New England.....	51	40	50,013	356,287	32,296	69,968	206,494	556,922	559,691	1,126,661	21,891	42,196	379,755
Middle Atlantic....	40	26	20,552	140,959	12,520	25,617	77,049	218,700	128,414	358,949	8,642	26,517	285,146
Pennsylvania.....	13	10	4,840	29,672	3,617	7,499	20,799	65,773	33,546	98,996	898	6,019	62,523
East North Central	67	56	42,004	321,853	24,714	50,131	161,891	504,947	452,744	955,796	19,666	53,453	607,955
Ohio.....	22	19	21,734	168,215	11,597	23,136	75,330	261,780	255,839	513,893	6,452	26,208	294,870
West North Central	6	6	2,010	14,711	1,310	2,512	7,878	23,595	13,531	37,435	549	5,790	53,472
South.....	17	12	14,116	109,128	5,865	12,308	35,532	142,418	138,310	276,639	10,352	3,866	27,107
West.....	50	31	61,226	536,388	26,780	56,526	193,922	752,363	577,818	1,292,503	54,791	27,272	262,236
California.....	42	25	45,780	419,670	19,730	41,653	141,110	567,071	400,895	933,181	47,508	25,833	250,001

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)



## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF AIRCRAFT ENGINES AND PARTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Aircraft Engines and Parts Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3722- --	Aircraft engines and engine parts, total.....	(X)	3,576,581	(X)	<sup>r</sup> 3,429,935
37221 10	Aircraft engines for United States military customers.....	13,896	644,284	(NA)	<sup>r</sup> 1,503,851
37222 10	Aircraft engines for other than United States military customers <sup>2</sup> .....	11,906	150,033		
37224 --	Aircraft engine parts and accessories.....	(X)	925,590	(X)	<sup>s</sup> 1,261,401
37224 13	For United States military customers.....	(X)	668,160	(X)	<sup>s</sup> 1,261,401
37224 53	For other than United States military customers.....	(X)	257,078		
37224 00	Aircraft engine parts and accessories, not specified by kind.....	(X)	352		
37225 --	Complete missile or space vehicle engines and/or propulsion units.....	(X)	574,916	(X)	( <sup>1</sup> )
37225 11	For United States military customers.....	(X)	452,712	(X)	(NA)
37225 13	For other than United States military customers.....	(X)	122,204	(X)	(NA)
37228 --	Missile and space vehicle engine and/or propulsion unit parts or accessories.....	(X)	138,326	(X)	( <sup>3</sup> )
37228 11	For United States military customers.....	(X)	65,577	(X)	(NA)
37228 13	For other than United States military customers.....	(X)	72,749	(X)	(NA)
37223 --	Research and development on aircraft engines.....	(X)	385,337	(X)	<sup>4</sup> 266,683
	Research and development work on aircraft engines:				
37223 21	For United States military customers.....	(X)	326,750	(X)	<sup>4</sup> 658,327
37223 23	For other than United States military customers.....	(X)	( <sup>6</sup> )	(X)	<sup>6</sup> 6,356
	All other aeronautical services on aircraft engines:				
37223 31	For United States military customers.....	(X)	37,416	(X)	( <sup>4</sup> )
37223 33	For other than United States military customers.....	(X)	621,171	(X)	( <sup>5</sup> )
37226 --	Receipts for research and development on complete missile or space vehicle engines and/or propulsion units.....	(X)	688,731	(X)	( <sup>4</sup> 3)
37226 11	For United States military customers.....	(X)	469,038	(X)	( <sup>4</sup> )
37226 13	For United States non-military customers.....	(X)	219,693	(X)	( <sup>5</sup> )
37227 --	All other services on complete missile or space vehicle engines and/or propulsion units.....	(X)	61,767	(X)	( <sup>4</sup> 3)
37227 11	For United States military customers.....	(X)	54,336	(X)	( <sup>4</sup> )
37227 13	For other than United States military customers.....	(X)	7,431	(X)	( <sup>5</sup> )
37220 00	Aircraft engines and engine parts, not specified by kind.....	(X)	7,597	(X)	-

- Represents zero. (NA) Not available. (X) Not applicable. <sup>r</sup>Revised.<sup>1</sup>For 1958, data on complete missile or space vehicle engines and/or propulsion units were included with aircraft engines.<sup>2</sup>Statistics on shipments of aircraft engines for other than United States military customers were collected monthly and published in Current Industrial Reports Series M37G. The total value reported in that survey for 1963 was \$144,254 thousand.<sup>3</sup>For 1958, data on missile and space vehicle engine and/or propulsion unit parts or accessories were included with aircraft engine parts and accessories.<sup>4</sup>For 1958, data on receipts for research and development on complete missile or space vehicle engines and/or propulsion units for United States military customers and, all other services on aircraft, missile or space vehicle engines and/or propulsion units for United States military customers were included with research and development on aircraft engines for United States military customers.<sup>5</sup>For 1958, data on receipts for research and development on complete missile or space vehicle engines and/or propulsion units for other than United States military customers and, all other services on aircraft, missile or space vehicle engines and/or propulsion units for other than United States military customers were included with research and development on aircraft engines for other than United States military customers.<sup>6</sup>For 1963, data on research and development on aircraft engines for other than United States military customers are included with all other aeronautical services on aircraft engines for other than United States military customers to avoid disclosing figures of individual companies.

U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-37B-3



INDUSTRY SERIES

preliminary  
report

## Aircraft propellers and parts

SIC Code 3723

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Aircraft Propellers and Parts Industry had total shipments valued at \$191 million, a decrease of 19 percent from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 28 percent from 1958 but an increase of 15 percent from 1962 to a total of 11 thousand employees in 1963. Value added by manufacture amounted to \$114 million in 1963, an increase of 1 percent from 1958 and 15 percent from 1962.

The Aircraft Propellers and Parts Industry includes establishments engaged primarily in the manufacture of aircraft propellers and propeller parts.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE AIRCRAFT PROPELLERS AND PARTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3723)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	13	8	11,223	78,956	6,263	13,596	37,855	113,965	69,969	191,487	6,077	(X)
1962.....	(NA)	(NA)	9,764	72,260	5,687	13,053	36,150	99,055	63,806	157,320	3,964	3
1961.....	(NA)	(NA)	10,526	70,436	5,535	12,221	34,290	87,543	60,618	157,395	3,871	2
1960.....	(NA)	(NA)	10,742	71,521	5,913	12,240	34,958	101,434	65,449	163,692	2,107	2
1959.....	(NA)	(NA)	11,384	72,767	6,852	14,098	38,732	95,369	74,726	173,790	(2,442)	1
1958.....	18	10	15,505	85,635	9,617	19,363	49,478	112,301	106,642	235,270	5,107	(X)
1954 <sup>3</sup> .....	16	13	16,523	78,058	11,647	22,179	49,135	99,455	106,566	215,213	4,320	(X)
1947 <sup>4</sup> .....	13	9	7,423	25,666	4,822	9,916	15,230	26,685	(*)	(*)	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

<sup>4</sup>Total cost of materials and total value of shipments are not shown for 1947 since these figures are not comparable to those of later years.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic

importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Aircraft Propellers and Parts Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Aircraft Propellers and Parts Industry amounted to \$191 million. Of this total, \$96 million were products primary to other industries; and \$7 million were receipts for miscellaneous activities. The industry shipments of primary products represent 48 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 75 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3 indicates that \$109 million of Aircraft propellers and parts were shipped by all producers of these products. Of this total, \$88 million, or 84 percent, were shipped by plants classified in Industry 3723, Aircraft Propellers and Parts, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 95 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary



reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE AIRCRAFT PROPELLERS AND PARTS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(Preliminary State and Regional detail  
not available without further review)

Table 3.--QUANTITY AND VALUE OF AIRCRAFT PROPELLERS AND PARTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Aircraft Propellers and Propeller Parts Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3723- --	Aircraft propellers and propeller parts, total.....	(X)	108,989	(X)	166,952
37230 10	Complete propellers <sup>1</sup> .....	15,654	58,725	22,132	94,832
37230 31	Propeller blades.....	9,728	10,887	7,013	13,291
37230 51	Propeller parts, except propeller blades.....	(X)	39,377	(X)	58,829

(X) Not applicable.

<sup>1</sup>Statistics on complete propellers are also shown in Current Industrial Reports Series M37E, "Aircraft Propellers."

**U.S. DEPARTMENT OF COMMERCE**

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-37B-4



## INDUSTRY SERIES

preliminary  
report

### Aircraft equipment, n. e. c.

SIC Code 3729

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Aircraft Equipment, N.E.C., Industry had total shipments valued at \$3,255 million, an increase of 7 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 16 percent from 1958 to a total of 178 thousand employees in 1963. Value added by manufacture amounted to \$2,018 million in 1963, an increase of 12 percent from 1958.

The Aircraft Equipment, N.E.C., Industry includes establishments engaged primarily in the manufacture of aircraft parts and auxiliary equipment, not elsewhere classified. Establishments primarily engaged in manufacturing or assembling complete aircraft are classified in Industry 3721, aircraft engines and parts in Industry 3722, propellers and propeller parts in Industry 3723, aeronautical instruments in Industry 3811, and aeronautical electrical equipment in Industry 3694.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.--GENERAL STATISTICS FOR THE AIRCRAFT EQUIPMENT, N.E.C., INDUSTRY IN THE UNITED STATES: 1963 AND 1958  
(SIC code 3729)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	1,002	476	178,456	1,365,951	112,378	234,926	751,320	2,017,609	1,204,389	3,255,273	63,692
1958 <sup>3</sup> .....	1,201	508	213,500	1,294,872	144,102	296,671	781,914	1,797,203	1,155,011	3,031,089	50,991

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

July 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958 and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

### VALUE ADDED BY MANUFACTURE

For 1958 and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Aircraft Equipment, N.E.C.,

Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Aircraft Equipment, N.E.C., Industry amounted to \$3,255 million. Of this total, \$886 million were products primary to other industries; and \$137 million were receipts for miscellaneous activities. The industry shipments of primary products represent 72 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 84 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$3,571 million of aircraft equipment, n.e.c., were shipped by all producers of these products. Of this total, \$2,232 million, or 63 percent, were shipped by plants classified in Industry 3729, Aircraft Equipment, N.E.C., while the remainder was shipped by plants classified in other industries. The 1958 ratio also was 63 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

## 1963 CENSUS OF MANUFACTURES

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1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted

every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE AIRCRAFT EQUIPMENT, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3729)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,002	476	178,456	1,365,951	112,378	234,926	751,320	2,017,609	1,204,389	3,255,273	63,692	213,500	1,797,203
Middle Atlantic...	150	86	25,500	188,360	12,703	27,301	78,482	269,349	159,602	425,448	9,102	36,025	302,620
New York.....	91	51	9,972	66,638	6,776	14,127	41,354	98,844	65,853	158,767	2,826	23,625	179,701
East North Central	151	75	30,141	224,270	18,830	39,021	123,140	297,049	236,552	533,258	9,510	42,692	337,229
Michigan.....	61	26	5,371	42,117	3,317	6,794	23,302	58,702	31,812	93,688	2,114	5,905	43,352
South Atlantic....	51	32	17,215	140,301	8,327	16,601	52,094	181,423	90,900	282,685	5,943	10,159	43,214
Florida.....	27	15	2,153	23,384	895	1,858	5,416	39,427	6,727	49,395	1,612	1,450	9,707
West South Central	48	25	6,065	56,177	3,896	7,958	22,962	84,736	51,298	134,530	2,558	9,034	70,893
Pacific.....	444	182	44,637	345,422	32,099	70,271	232,667	528,560	292,300	824,992	26,346	88,514	797,748
California.....	420	170	41,754	324,868	30,207	66,248	220,570	501,890	269,886	779,701	23,719	87,130	786,094
All other divisions.....	158	76	54,898	411,421	36,523	73,774	241,975	656,492	373,737	1,054,360	10,233	27,076	245,499
Connecticut.....	38	18	4,991	36,833	2,941	6,293	18,067	45,288	27,183	71,389	2,587	1,708	16,413

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)



## 1963 CENSUS OF MANUFACTURES

Table 3.--VALUE OF AIRCRAFT PARTS AND AUXILIARY EQUIPMENT, N.E.C. SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Aircraft Equipment, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers (\$1,000)	
		1963	1958
3729- --	Aircraft parts and auxiliary equipment, n.e.c., total.....	3,571,033	3,750,460
37291 --	Aircraft parts and auxiliary equipment.....	2,025,799	2,860,570
37291 13	Aircraft and related engines and power take-off gears:		
37291 15	For United States military customers.....	167,216	26,848
	For other than United States military customers.....	67,778	
	Other aircraft subassemblies and parts:		
37291 95	For United States military customers.....	1,313,178	2,833,722
37291 97	For other than United States military customers.....	438,081	
37291 00	Aircraft parts and auxiliary equipment, not specified by kind <sup>1</sup> .....	39,546	( <sup>1</sup> )
37292 --	Guided missile components and subassemblies, n.e.c.....	988,551	509,200
	For United States Government military customers:		
37292 11	Airframes.....	87,485	509,200
37292 13	Space capsules.....	32,337	
37292 19	All other.....	715,976	
	For United States Government nonmilitary customers:		
37292 21	Airframes.....	16,892	509,200
37292 23	Space capsules.....		
37292 29	All other.....	68,691	
	For nongovernment customers:		
37292 31	Airframes.....	10,951	509,200
37292 33	Space capsules.....		
37292 39	All other.....	28,924	
37292 00	Guided missile components and subassemblies, not specified by kind <sup>1</sup> .....	27,295	
37293 --	Receipts from research and development on aircraft parts <sup>2</sup> .....		
37293 13	For United States military customers.....		
37293 15	For other than United States military customers.....		
37293 00	Receipts from research and development on aircraft parts, not specified by kind <sup>1</sup> .....	88,470	(NA)
37294 --	Receipts from research and development on missile components, n.e.c. <sup>2</sup> .....	418,147	380,690
	Research and development on missile and space vehicle components, n.e.c.:		
	For United States Government military customers:		
37294 11	Airframes.....	173,020	380,690
37294 13	Space capsules.....		
37294 19	All other.....	148,084	
	For United States Government nonmilitary customers:		
37294 21	Airframes.....	24,662	380,690
37294 23	Space capsules.....		
37294 29	All other.....	44,108	
	For nongovernment customers:		
37294 31	Airframes.....	13,056	380,690
37294 33	Space capsules.....		
37294 39	All other.....	12,203	
37294 00	Receipts from research and development on missile components, n.e.c., not specified by kind <sup>1</sup> .....	3,015	
37290 00	Aircraft parts and auxiliary equipment, n.e.c., not specified by kind <sup>1</sup> .....	50,066	( <sup>1</sup> )

n.e.c. Not elsewhere classified. (NA) Not available.

<sup>1</sup>Since much less detail was collected in these areas in 1958, "not specified by kind" was included within the specified products.<sup>2</sup>Represents receipts or billings.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-37C-1



INDUSTRY SERIES

preliminary  
report

## Ship building and repairing

SIC Code 3731

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Ship Building and Repairing Industry did work and had other receipts valued in total at \$1,671 million, an increase of 3 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 4 percent from 1958 but a 2 percent increase from 1962 to a total of 114 thousand employees in 1963. Value added by manufacture amounted to \$1,005 million in 1963, an increase of 10 percent from 1958 and 5 percent from 1962.

The Ship Building and Repairing Industry includes establishments engaged primarily in building and repairing all types of ships, barges, canal boats and lighters, whether propelled by sail or motor power or towed by other craft. This industry also includes the conversion and reconversion of ships.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE SHIPBUILDING AND REPAIRING INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3731)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of work done (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	332	198	114,205	779,678	96,053	192,577	607,966	1,004,569	666,318	1,670,887	24,104	(X)
1962 <sup>3</sup> .....	(NA)	(NA)	111,613	732,722	94,065	186,243	577,592	953,857	716,345	1,670,202	23,014	3
1961 <sup>2</sup> .....	(NA)	(NA)	114,215	728,708	95,730	187,625	569,244	919,666	701,187	1,621,204	31,648	2
1960 <sup>2</sup> .....	(NA)	(NA)	107,694	670,470	90,132	179,721	521,641	860,050	600,658	1,460,688	28,868	2
1959 <sup>2</sup> .....	(NA)	(NA)	116,272	673,230	96,291	186,089	519,390	951,950	614,111	1,566,061	33,762	1
1958.....	319	222	119,147	669,826	101,153	197,707	537,814	913,687	711,937	1,625,624	38,737	(X)
1954 <sup>3</sup> .....	355	245	109,451	504,470	96,196	187,982	421,791	692,796	391,445	1,084,242	19,316	(X)
1947 <sup>2</sup> .....	302	(NA)	130,805	417,829	115,232	234,103	332,401	520,363	282,198	802,561	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

Value added for this industry is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of work done on ships, the value of shipments for secondary products manufactured, plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF WORK DONE

The value of work done and other receipts reported by establishments classified in the Ship Building and Repairing Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of work done

and other receipts of establishments classified in the Ship Building and Repairing Industry amounted to \$1,671 million. Of this total, \$121 million were products primary to other industries; and \$61 million were receipts for miscellaneous activities. The industry shipments of primary products represented 93 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 93 percent.

The total value of work done and other receipts for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry made by all producers. The latter figure, appearing in table 3, indicates that \$1,500 million of ship building and repairing was done by all producers of these products. Of this total, \$1,490 million, or 99 percent, was performed by plants classified in Industry 3731, Ship Building and Repairing, while the remainder was performed by plants classified in other industries. The 1958 ratio was also 99 percent.

The value of ship building and repairing represents value of work done during the year. This provides a more adequate measure of the activity in this industry than value of vessels completed and delivered, primarily because of the length of the production cycle, which may be several years for some vessels. Value of shipments (deliveries) would result in a distortion for establishments working on a vessel all year, but not completing it during the year or, conversely, for establishments completing and delivering a vessel during a year when most of the work was performed in previous years. Respondents were requested to compute the value of work done by including the cost of labor, the cost of purchased materials and parts received during 1963, overhead and profits by one of the following methods: (1) estimating the percentage of completion during 1963, (2) reporting net billings for work done during 1963, or (3) reporting payments received for work done during 1963.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of work done, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the value of work performed by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of



## 1963 CENSUS OF MANUFACTURES

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such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE SHIPBUILDING AND REPAIRING INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3731)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of work done	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	332	198	114,205	779,678	96,053	192,577	607,966	1,004,569	666,318	1,670,887	24,104	119,147	913,687
New England.....	33	15	23,271	183,647	16,651	36,866	109,599	229,588	134,632	364,220	6,554	21,288	198,651
Middle Atlantic...	77	44	16,180	112,371	14,073	27,297	92,692	141,597	82,321	223,918	2,071	22,921	171,980
New York.....	45	23	3,718	25,036	3,123	5,963	20,176	35,997	21,478	57,475	(1)	6,535	49,908
New Jersey.....	22	13	7,592	54,843	6,876	13,152	47,476	69,373	28,199	97,572	1,219	12,060	91,396
Pennsylvania.....	10	8	4,870	32,492	4,074	8,182	25,040	36,227	32,644	68,871	511	4,326	30,676
North Central.....	32	17	3,859	22,344	3,314	6,515	18,071	32,336	30,626	62,529	810	7,200	50,707
Wisconsin.....	7	6	1,585	8,836	1,369	2,747	7,148	14,434	10,534	24,555	(1)	2,087	16,319
South Atlantic....	63	43	34,583	227,171	30,883	60,731	196,971	289,103	144,381	433,484	5,533	30,876	221,960
Florida.....	28	15	5,496	18,649	3,129	6,151	16,031	25,334	17,243	42,577	613	3,907	21,797
East South Central	16	12	8,764	53,389	7,456	14,091	40,866	53,567	57,809	111,376	2,746	13,587	89,350
West South Central	50	32	11,977	75,415	10,339	21,607	62,531	106,315	90,819	197,134	3,285	9,924	74,767
Louisiana.....	26	17	7,189	45,902	6,319	13,955	39,401	64,831	58,153	122,764	1,949	5,835	41,225
Pacific.....	61	35	15,571	105,341	13,337	25,470	87,236	152,496	125,730	278,226	3,105	13,351	106,272
California.....	37	24	9,254	63,787	7,875	14,998	52,138	92,636	72,201	164,837	687	8,254	63,703

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.--QUANTITY AND VALUE OF SHIP BUILDING AND REPAIRING PERFORMED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Ship Building and Repairing Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Work Done")

Product code	Product	Total value of work done <sup>1</sup>			
		1963		1958	
		Quantity (number of ships)	Value (\$1,000)	Quantity (number of ships)	Value (\$1,000)
3731- --	Ship building and repairing, total <sup>2</sup> .....	(X)	1,499,700	(X)	1,467,381
37311 --	Nonpropelled ships (barges, etc.) new construction.....	(X)	78,840	(X)	95,266
37311 10	Nonpropelled ships, new construction, military, including hopper barges, tank barges, covered cargo barges, deck barges, dredges, car floats, etc.....	202	1,646	(NA)	( <sup>3</sup> )
	Nonpropelled ships - nonmilitary ships, new construction				
37311 21	Hopper barges.....	480	18,763	(NA)	26,827
37311 31	Tank barges.....	672	13,796	(NA)	12,670
37311 41	Covered cargo barges.....	162	9,152	(NA)	12,901
37311 51	Deck barges.....	229	7,552	(NA)	9,124
37311 61	Dredges.....	33	2,947	(NA)	2,108
37311 71	Car floats.....	-	-	(NA)	334
37311 81	Other nonmilitary nonpropelled vessels.....	1,285	24,984	(NA)	31,302
37312 --	Self-propelled ships - U.S. military, new construction.....	(X)	679,824	(X)	469,965
37312 10	Self-propelled ships, new construction, U.S. military (including combat ships, troop transport vessels, fleet auxiliaries service craft, etc.)	(X)	679,824	(X)	469,965
37313 --	Self-propelled ships - nonmilitary, new construction.....	(X)	235,305	(X)	441,220
37313 10	Self-propelled ships, new construction, nonmilitary (including passenger ships, passenger-cargo, dry cargo, tankers, towboats, tugboats, tender vessels, commercial sailing vessels, yachts, ferryboats, fireboats, etc.).....	(X)	235,305	(X)	441,220
37314 --	Ship repair, U.S. military.....	(X)	222,092	(X)	123,828
	Military sea transportation service:				
37314 21	Conversions and reconversions.....	(X)	2,325	(X)	411,242
37314 29	All other repairs.....	(X)	25,435	(X)	582,596
	All other:				
37314 31	Conversions and reconversions.....	(X)	62,304	(X)	( <sup>4</sup> )
37314 39	All other repairs.....	(X)	132,028	(X)	( <sup>5</sup> )
37316 --	Repair of nonmilitary ships.....	(X)	276,514	(X)	326,778
	Maritime Administration:				
37316 13	Conversions and reconversions.....	}	(X) 19,421	(X)	40,104
37316 19	All other repairs.....				
	All others:				
37316 53	Conversions and reconversions.....	(X)	19,326	(X)	61,543
37316 59	All other repairs.....	(X)	237,407	(X)	225,131
37316 00	Repair of nonmilitary ships, not specified by kind.....	(X)	360	(X)	-
37310 00	Ship building and repairing, not specified by kind.....	(X)	7,125	(X)	310,314

- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>The total value of work done for ship building and repairing differs from "value of shipments." See text for explanation. However, the figures for codes 3731110 through 3731181 are value of shipments.<sup>2</sup>Excludes products manufactured by facilities operated by the Department of Defense, or at Federal, District of Columbia, and State prisons.<sup>3</sup>In 1958, data for code 3731110, "Nonpropelled ships, new construction, military, including hopper barges, etc." were withheld to avoid disclosing figures for individual companies. They are included with code 3731000 "Ship building and repairing, not specified by kind."<sup>4</sup>In 1958 code 3731431, "All other conversions and reconversions" was included with code 3731421, "Military sea transportation service, conversions and reconversions."<sup>5</sup>In 1958 code 3731439, "All other repairs" was included with code 3731429, "Military sea transportation service, all other repairs."

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# 1963 CENSUS OF MANUFACTURES

MC63(P)37C-2



INDUSTRY SERIES

preliminary  
report

## Boat building and repairing

SIC Code 3732

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Boat Building and Repairing Industry had total shipments valued at \$365 million, an increase of 11 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 1 percent from 1958 to a total of 25 thousand employees in 1963. Value added by manufacture amounted to \$184 million in 1963, an increase of 17 percent from 1958.

The Boat Building and Repairing Industry includes establishments engaged primarily in the manufacture and repair of all types of boats, except rubber boats (Industry 3069). Establishments primarily engaged in cleaning and storing boats and in the rental of dock space, and yacht clubs are classified in nonmanufacturing industries.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.—GENERAL STATISTICS FOR THE BOAT BUILDING AND REPAIRING INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3732)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	1,621	266	25,026	117,064	20,951	42,522	92,360	184,369	185,525	365,107	13,715
1958.....	1,651	277	25,295	103,603	21,156	40,346	81,356	157,309	178,803	329,009	15,298
1954 <sup>3</sup> .....	1,154	189	16,900	57,599	14,709	28,630	47,112	86,305	77,422	163,626	4,804
1947 <sup>3</sup> .....	808	(NA)	18,850	49,756	16,801	35,033	41,970	66,195	43,179	114,374	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. The figures for production workers, 1954, 1958 and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Boat Building and Repairing Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Boat Building and Repairing Industry amounted to \$365 million. Of this total, \$10 million were products primary to other industries; and \$27 million were receipts for miscellaneous activities. The industry shipments of primary products represented 97 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 93 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3 indicates that \$345 million of boat building and repairing was done by all producers. Of this total, \$328 million, or 95 percent, was done by plants classified in Industry 3732, Boat Building and Repairing, while the remainder was done by plants classified in other industries. The 1958 ratio was also 95 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in



## 1963 CENSUS OF MANUFACTURES

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1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted

every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE BOAT BUILDING AND REPAIRING INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3732)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,621	266	25,026	117,064	20,951	42,522	92,360	184,369	185,525	365,107	13,715	25,295	157,309
New England.....	196	33	2,497	11,639	2,121	4,437	9,156	19,484	16,437	35,661	1,405	1,890	10,844
Maine.....	56	8	494	1,707	406	843	1,416	2,644	2,396	5,015	( <sup>1</sup> )	557	2,276
Massachusetts.....	81	15	1,181	6,086	1,024	2,189	4,960	9,595	7,597	17,126	503	683	4,276
Connecticut.....	30	5	290	1,541	242	505	1,099	2,846	1,928	4,753	( <sup>1</sup> )	294	1,832
Middle Atlantic.....	223	44	4,007	19,194	3,356	6,824	15,341	31,300	28,529	58,435	2,230	3,490	17,395
New York.....	109	23	1,759	8,317	1,434	2,890	6,572	13,036	9,633	21,979	924	1,668	5,718
New Jersey.....	96	17	1,464	7,169	1,309	2,663	6,084	11,975	10,920	22,755	953	1,108	6,852
Pennsylvania.....	18	4	784	3,708	613	1,271	2,685	6,289	7,976	13,701	( <sup>1</sup> )	714	4,825
North Central.....	233	52	5,734	27,864	4,745	9,676	21,513	43,827	48,903	90,776	2,329	6,532	41,631
Ohio.....	24	7	504	2,685	431	832	2,111	3,977	3,648	7,764	( <sup>1</sup> )	825	5,933
Michigan.....	53	12	1,894	9,079	1,662	3,220	7,656	14,375	16,452	30,649	( <sup>1</sup> )	2,012	11,781
Wisconsin.....	41	9	824	3,481	686	1,398	2,622	5,441	5,252	10,769	( <sup>1</sup> )	847	5,380
Minnesota.....	33	8	750	3,170	606	1,265	2,352	4,982	5,904	10,520	( <sup>1</sup> )	1,043	8,126
South Atlantic.....	384	56	6,051	27,181	5,159	10,371	21,593	42,466	44,636	86,252	2,623	5,495	31,660
Florida.....	182	28	2,438	11,424	1,927	4,140	8,223	16,651	15,818	32,074	1,356	2,442	12,163
East South Central.....	56	11	1,047	3,894	822	1,612	3,257	7,175	7,767	15,121	2,427	632	4,679
West South Central.....	173	31	2,602	10,861	2,114	4,484	7,974	13,850	17,053	31,608	1,267	3,185	17,009
Louisiana.....	65	10	849	3,577	732	1,784	2,926	5,411	5,396	10,975	526	630	3,606
West.....	356	39	3,088	16,431	2,634	5,118	13,526	26,267	22,200	47,254	1,434	4,071	34,091
California.....	185	22	1,839	10,106	1,569	3,091	8,161	16,165	13,608	28,958	982	2,736	24,925

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF BOAT BUILDING AND REPAIRING BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Boat Building and Repairing Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Number of boats)	Value (\$1,000)	Quantity (Number of boats)	Value (\$1,000)
3732- --	Boat building and repairing.....	(X)	345,343	(X)	300,143
37321 --	Inboard motor boats (all types).....	(X)	133,284	(X)	76,095
37321 11	Boats of special Army, Navy, or Coast Guard design (new construction)...	342	5,242	(NA)	3,582
	Boats, nonmilitary, new construction (other than specially designed types built for the Army, Navy, or Coast Guard):				
	Motorboats, excluding sailboats with auxiliary power, lifeboats, and prefabricated boat construction kits:				
37321 31	Inboard powered boats:				
	Runabouts (wood, metal, plastic reinforced).....	3,112	10,046	(1)	(1)
	Cabin cruisers:				
	Under 26' in length:				
37321 41	Wood.....	1,928	7,574	11,446	132,051
37321 51	Metal.....	29	129		
37321 61	Plastics (reinforced).....	982	3,289		
	26' or over and less than 40' in length:				
37321 43	Wood.....	5,990	56,316	2,698	27,608
37321 53	Metal.....	354	4,116		
37321 63	Plastics (reinforced).....	349	6,070		
	40' and over in length:				
37321 45	Wood.....	349	15,926	345	12,854
37321 55	Metal.....	67	3,820		
37321 65	Plastics (reinforced).....	77	2,324		
37321 71	Inboard-outboard boats (inboard engine with outdrive propulsion)....	6,645	17,483	(NA)	(NA)
37321 00	Inboard motor boats, not specified by kind.....	(X)	949	(X)	-
37322 --	Outboard motor boats (all types including prefabricated kits).....	(X)	77,867	(X)	108,360
	Outboard motor boats (all types) including prefabricated kits (excluding sailboats with auxiliary power, lifeboats):				
	Runabouts:				
	13'6" and under in length:				
37322 21	Wood.....	5,761	1,284	264,902	214,857
37322 31	Metal.....	37,322	2,834		
37322 41	Plastic (reinforced).....	9,281	3,012		
	13'7" to 15'6" in length:				
37322 23	Wood.....	4,904	1,387	2140,384	252,772
37322 33	Metal.....	30,292	5,678		
37322 43	Plastic (reinforced).....	29,247	15,118		
	15'7" to 17'6" in length:				
37322 25	Wood.....	4,129	3,267	2 344,072	2 335,809
37322 35	Metal.....	8,731	3,549		
37322 45	Plastic (reinforced).....	25,909	22,208		
	17'7" and over in length:				
37322 26	Wood.....	3,071	3,422	(2)	(2)
37322 36	Metal.....	1,574	897		
37322 46	Plastic (reinforced).....	3,087	3,313		
	Utility:				
37322 27	Wood.....	410	600	(2)	(2)
37322 37	Metal.....	17,307	2,847		
37322 47	Plastic (reinforced).....	1,671	663		
	Cabin cruisers:				
37322 28	Wood.....	716	1,237	(3)	(3)
37322 38	Metal.....	824	1,198		
37322 48	Plastic (reinforced).....	2,735	3,706		
37322 51	Prefabricated boat construction kits.....	1,832	193	17,694	4,922
37322 00	Outboard motor boats, not specified by kind.....	(X)	1,454	(X)	-
37323 --	All other boats (sailboats, rowboats, canoes, etc.).....	(X)	36,602	(X)	15,497
37323 13	Sailboats.....	13,734	17,949	26,071	15,497
37323 19	Other boats, including rowboats, canoes, skiffs, dinghies, lifeboats, etc.....	86,485	18,547		
37323 00	All other boats, not specified by kind.....	(X)	106	(X)	-
37324 --	Boat repair - military and nonmilitary.....	(X)	44,786	(X)	55,086
37324 11	Repair of U.S. military boats (receipts for repair work done on Army, Navy, or Coast Guard boats).....	(X)	7,066	(X)	8,696
37324 21	Repair of nonmilitary boats (receipts for repair work done on all other boats).....	(X)	36,133	(X)	46,390
37324 00	Boat repair, not specified by kind.....	(X)	1,587	(X)	-
37320 00	Boat building and repairing, not specified by kind.....	(X)	52,804	(X)	45,105

- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>1958 data for inboard powered runabouts, code 3732131, were included with cabin cruisers based on length of boat. Such runabouts are almost all under 26' in length.<sup>2</sup>1958 data for outboard powered utility boats, codes 3732227, 3732237, and 3732247, are included with runabouts based on length of boat.<sup>3</sup>1958 data for outboard powered cabin cruisers, codes 3732228, 3732238, and 3732248, were included with runabouts based on length of boat. Such cabin cruisers are almost all over 15'7" in length.

# 1963 CENSUS OF MANUFACTURES

MC63(P)-37C-3



INDUSTRY SERIES

preliminary  
report

## Locomotives and parts

SIC Code 3741

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Locomotives and Parts Industry had total shipments valued at \$438 million, an increase of 7 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 6 percent from 1958 but a slight increase from 1962 to a total of 14 thousand employees in 1963. Value added by manufacture amounted to \$186 million in 1963, an increase of 22 percent from 1958, but a decrease of 17 percent from 1962.

The Locomotives and Parts Industry includes establishments engaged primarily in building and rebuilding locomotives (including frames and parts, not elsewhere classified) of any type or gauge. Railroad shops rebuilding and repairing locomotives or building new locomotives are classified in non-manufacturing industries.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE LOCOMOTIVES AND PARTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3741)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	24	12	14,337	99,696	10,647	20,803	67,405	186,142	249,787	437,872	7,195	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	14,214	99,753	10,684	21,573	68,677	224,169	241,999	443,246	5,231	3
1961 <sup>2</sup> .....	(NA)	(NA)	11,955	80,080	8,183	16,051	49,067	138,804	189,562	343,992	2,755	2
1960 <sup>2</sup> .....	(NA)	(NA)	13,519	91,667	9,295	19,651	58,500	176,045	218,992	395,847	3,636	2
1959 <sup>2</sup> .....	(NA)	(NA)	14,888	94,624	10,577	21,134	61,774	204,925	245,455	454,637	(2,576)	1
1958.....	25	13	15,282	90,097	10,742	21,092	58,552	152,086	224,754	407,540	5,275	(X)
1954 <sup>3</sup> .....	29	23	20,891	104,274	15,968	31,439	70,575	164,006	254,656	444,418	6,370	(X)
1947 <sup>3</sup> .....	36	(NA)	30,419	97,696	25,432	50,677	78,338	143,092	212,113	355,205	(NA)	(X)
1939 <sup>3</sup> .....	20	(NA)	(NA)	(NA)	(NA)	(NA)	10,466	23,450	27,903	51,323	(NA)	(X)

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic

importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Locomotives and Parts Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Locomotives and Parts Industry amounted to \$438 million. Of this total, \$70 million were products primary to other industries; and \$25 million were receipts for miscellaneous activities. The industry shipments of primary products represented 83 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 85 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$375 million of locomotives and parts were shipped by all producers of these products. Of this total, \$342 million, or 91 percent, were shipped by plants classified in Industry 3741, Locomotives and Parts, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 90.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities

(contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will

be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE LOCOMOTIVES AND PARTS INDUSTRY BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3741)

Region	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)	All employ- ees, number	Value added by manufac- ture (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	24	12	14,337	99,696	10,647	20,803	67,405	186,142	249,787	437,872	7,195	15,282	152,086
Northeast and North Central....	24	12	14,337	99,696	10,647	20,803	67,405	186,142	249,787	437,872	7,195	15,269	151,756

<sup>1</sup>Includes 13 employees and value added of \$330 thousand for the South and West regions.

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

## 1963 CENSUS OF MANUFACTURES

Table 3A.--QUANTITY AND VALUE OF LOCOMOTIVES AND PARTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Locomotives and Parts Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers					
		1963			1958		
		Quantity (number of units)	Weight (short tons)	Value (\$1,000)	Quantity (number of units)	Weight (short tons)	Value (\$1,000)
3741- --	Locomotives and parts, total <sup>1</sup> .....	(X)	(X)	375,395	(X)	(X)	355,168
37411 --	Road service, road switching and switching type locomotives, total.....	(X)	(X)	132,699	(X)	(X)	204,912
37411 41	Diesel-electric.....	686	73,757	132,699	1,140	116,660	204,912
37411 43	Other.....						
37412 --	Mining and industrial types (including Diesel-electric, Diesel-mechanical, electric storage battery, etc.), total.....	(X)	(X)	8,515	(X)	(X)	14,796
37412 11	Mining type as reported on Census Form MA-35F.....	<sup>2</sup> 135	(X)	<sup>2</sup> 3,075	(X)	(X)	(X)
37412 17	Mining type as reported in Census of Manufactures...	(X)	1,762	2,854	363	9,150	14,796
	Industrial type.....	72	2,821	5,661			
37413 --	Parts for locomotives, for sale separately, and rebuilt locomotives, total.....	(X)	(X)	234,181	(X)	(X)	135,460
37413 11	Parts for locomotives for sale separately (except wheels but including tenders, locomotive air brakes, repair parts, locomotive stokers, lubrication systems, super heaters, etc.....	(X)	(X)	234,181	(X)	(X)	135,460
37413 51	Rebuilt locomotives.....						

(X) Not applicable.

<sup>1</sup>Data excludes parts shipped by railroad repair shops. No new or rebuilt locomotives were produced in railroad repair shops in either 1963 or 1958.

<sup>2</sup>Data previously published in Current Industrial Reports Series have been revised as follows:

Product	Quantity (number of units)	Value (\$1,000)
Electric.....	33	1,782
Other (battery and Diesel)...	102	1,293

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR LOCOMOTIVES AND PARTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3741-	Locomotives and parts.....1963...	86	120
	.....1958...	87	112
37411	Road service, road switching and switching type locomotives.....1963...	47	118
	.....1958...	79	109
37412	Mining and industrial types.....1963...	37	156
	.....1958...	64	155

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U.S. DEPARTMENT OF COMMERCE  
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OFFICIAL BUSINESS



# 1963 CENSUS OF MANUFACTURES

MC63(P)-37C-4

INDUSTRY SERIES

preliminary  
report

## Railroad and street cars

SIC Code 3742

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Railroad and Street Cars Industry had total shipments valued at \$927 million, an increase of 65 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 26 percent from 1958 and 12 percent from 1962 to a total of 31 thousand employees in 1963. Value added by manufacture amounted to \$359 million in 1963, an increase of 114 percent from 1958 and 46 percent from 1962.

The Railroad and Street Cars Industry includes establishments engaged primarily in building and rebuilding railroad, street, and rapid transit cars and car equipment for operation on rails for freight and passenger service. This industry also includes establishments primarily engaged in manufacturing trackless trolley busses. Establishments owned and operated by railroads or local transit companies rebuilding, or repairing cars, or building new cars for their own account are excluded from this industry but are classified in Major Groups 40 and 41.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establish-

Table 1.--GENERAL STATISTICS FOR THE RAILROAD AND STREET CARS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3742)

Year	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	78	58	30,742	201,999	24,254	47,246	150,107	358,866	591,023	927,184	10,974	(X)
1962.....	(NA)	(NA)	27,418	179,590	20,892	40,479	128,137	276,976	418,357	665,708	11,902	3
1961 <sup>2</sup> .....	(NA)	(NA)	22,625	144,812	16,698	31,157	96,680	184,217	335,371	538,920	8,542	2
1960 <sup>2</sup> .....	(NA)	(NA)	28,728	170,659	23,077	42,375	124,787	275,241	461,496	723,014	8,513	2
1959 <sup>2</sup> .....	(NA)	(NA)	23,418	139,246	17,926	33,623	96,909	246,037	311,119	513,397	9,339	1
1958.....	67	44	24,309	133,302	17,872	32,565	91,089	167,576	310,796	562,190	8,635	(X)
1954 <sup>3</sup> .....	57	40	30,685	139,261	23,828	44,969	102,457	164,044	282,978	499,294	19,074	(X)
1947 <sup>3</sup> .....	87	(NA)	60,851	186,107	50,292	101,184	146,848	273,130	453,037	726,167	(NA)	(X)
1939 <sup>3</sup> .....	48	(NA)	(NA)	(NA)	17,711	(NA)	23,827	58,801	85,538	144,339	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from

the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Railroad and Street Cars Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Railroad and Street Cars Industry amounted to \$927 million. Of this total, \$85 million were products primary to other industries; and \$50 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 87 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$869 million of railroad and street cars were shipped by all producers of these products. Of this total, \$812 million, or 93 percent, were shipped by plants classified in Industry 3742, Railroad and Street Cars, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 90 percent.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.



GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports

will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE RAILROAD AND STREET CARS INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3742)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	78	58	30,742	201,999	24,254	47,246	150,107	358,866	591,023	927,184	10,874	24,309	167,576
Northeast and North Central....	66	48	25,464	167,442	19,997	38,716	123,981	288,124	455,731	723,705	8,644	21,228	154,852
Pennsylvania.....	15	11	8,507	55,453	6,686	12,062	41,124	101,245	140,110	223,550	3,202	8,898	64,904
Ohio.....	9	8	2,953	20,895	2,422	4,911	16,683	31,596	46,047	79,963	739	2,530	23,561
Indiana.....	5	4	3,594	25,363	2,894	6,027	19,796	41,237	77,883	116,922	1,864	3,165	12,380
South and West....	12	10	5,278	34,557	4,257	8,530	26,216	70,742	135,292	203,479	2,230	3,081	12,724

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)



Table 3A.--QUANTITY AND VALUE OF RAILROAD AND STREET CARS SHIPPED BY ALL PRODUCERS (EXCEPT CAR SHOPS OPERATED BY RAILROADS) IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Railroad and Street Cars Industry but also by establishments making these items as "secondary" products in other manufacturing industries. See text under "Value of Shipments." See table 3B for quantity and value of these products shipped by car shops operated by railroads)

Product code	Product	Total shipments including interplant transfers								
		1963			1958					
		Quantity (number of units)	Weight (short tons)	Value (\$1,000)	Quantity (number of units)	Weight (short tons)	Value (\$1,000)			
3742- --	Railroad and street cars, total.....	(X)	(X)	869,166	(X)	(X)	528,598			
37421 --	Passenger train cars, new, total.....	(X)	(X)	36,470	(X)	(X)	11,416			
37421 11	Coach (excluding coach combination).....	266	12,662	36,470	33	2,038	7,061			
37421 98	Other passenger train cars (including postal; postal-nonpassenger combinations; express refrigeration and milk; self-propelled passenger and combination passenger-baggage cars; railmotor and multiple unit electric cars, etc.).....				83	5,063	4,355			
37422 --	Freight train cars, new, total.....				(X)	(X)	521,508	(X)	(X)	<sup>1</sup> 319,262
37422 11	Box.....				10,652	403,469	182,295	( <sup>2</sup> )	(NA)	( <sup>2</sup> )
37422 15	Flat.....	7,308	255,843	99,579	1,288	29,528	18,295			
37422 25	Gondola.....	250	7,899	2,925	7,552	220,995	73,024			
37422 31	Hopper (covered).....	6,689	209,978	92,939	10,783	284,186	104,737			
37422 33	Hopper (uncovered).....	1,693	58,701	24,880						
37422 45	Caboose.....	226	5,766	4,381						
37422 35	Tank.....	5,898	212,694	114,509						
37422 41	Refrigerator.....			12,551	(NA)	<sup>1</sup> 2123,206				
37422 98	Other freight train cars, including industrial rail cars not suitable for use on common carriers.....									
37423 --	Street cars, parts and accessories for railroad cars and street cars, and rebuilt passenger and freight train cars, total.....	(X)	(X)	309,921	(X)	(X)	<sup>1</sup> 196,539			
37423 13	Other cars, including railroad work equipment, street, subway, rapid transit, interurban cars, trolley buses, and self-propelled cars.....	(X)	(X)	287,130	(X)	(X)	196,539			
37423 21	Parts and accessories for passenger and freight train cars, self-propelled cars and street, rapid transit, and interurban cars (except wheels) (for sale separately).....									
37423 31	Rebuilt passenger and freight train cars:									
37423 51	Rebuilt passenger train cars.....	76	4,455	5,029	( <sup>1</sup> )	(NA)	( <sup>1</sup> )			
37423 51	Rebuilt freight train cars.....	4,282	103,111	17,762	-	-	-			
37420 00	Railroad and street cars, not specified by kind.....	(X)	(X)	1,267	(X)	(X)	1,381			

- Represents zero.

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Product class 37422 and product code 3742298 include an undetermined value from product class 37423 and 3742321.

<sup>2</sup>Included with figures for other freight train cars (code 3742298) in 1958.

Table 3B.--QUANTITY AND VALUE OF NEW AND REBUILT PASSENGER AND FREIGHT TRAIN CARS SHIPPED BY SHOPS OF OPERATING RAILROADS IN THE UNITED STATES: 1963 AND 1958

Product code	Product <sup>1</sup>	Total shipments including interplant transfers					
		1963			1958		
		Quantity (number of units)	Weight (short tons)	Value (\$1,000)	Quantity (number of units)	Weight (short tons)	Value (\$1,000)
3742- --	New and rebuilt <sup>2</sup> passenger and freight train cars, total <sup>3</sup> .....	18,255	(X)	178,489	17,401	(X)	152,562
37421 --	New passenger train cars .....	(X)	(X)	(X)	-	-	-
37421 11	Coach (excluding coach combination) .....	(X)	(X)	(*)	-	-	-
37421 98	Other passenger train cars .....	(X)	(X)	(*)	-	-	-
37422 --	New freight train cars .....	(X)	(X)	(X)	(X)	(X)	(X)
37422 11	Box .....	4,752	150,864	64,949	(X)	(X)	(*)
37422 15	Flat .....	497	18,943	8,208	630	18,559	4,462
37422 25	Condola .....	-	-	-	3,257	91,564	34,779
37422 31	Hopper (covered) .....	-	-	-	4,863	125,865	39,254
37422 33	Hopper (uncovered) .....	5,368	121,896	46,888	-	-	-
37422 35	Tank .....	-	-	-	-	-	-
37422 41	Refrigerator .....	921	39,627	19,123	-	-	-
37422 45	Caboose .....	(X)	(X)	(*)	-	-	-
37422 98	Other freight train cars, including industrial rail cars not suitable for use on common carriers .....	(X)	(X)	(*)	-	-	-
37423 --	Rebuilt cars and other cars .....	(X)	(X)	(X)	8,651	(NA)	\$74,067
37423 31	Rebuilt passenger train cars .....	(X)	(X)	(*)	-	-	-
37423 51	Rebuilt freight train cars .....	5,845	62,476	30,483	-	-	-
37423 13	Other cars, including railroad work equipment, street, subway, rapid transit, trackless trolleys, and interurban cars .....	872	(NA)	48,858	-	-	-

- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>Values of railroad cars built by railroads for own use represents the amounts at which they were written into property accounts.<sup>2</sup>A passenger and freight train car is defined as rebuilt when the cost of their dismantling, improvement and modernization is more than 50 percent of the replacement cost of a new unit of the same class and kind at the time of rebuilding. Conversions, reclassifications or units which were reconditioned by replacing defective parts are not included.<sup>3</sup>Excludes parts for passenger and freight cars, made in railroad car shops.<sup>4</sup>The 1963 product codes 3742111, 3742198, 3742245, 3742298, and 3742331 are included with the figure for "Other cars" (code 3742313).<sup>5</sup>The 1958 product code 3742211 is included in the figure of \$74,067 thousand.

Table 3C.--INDEXES OF PRODUCTION AND UNIT VALUE BY RAILROAD AND STREET CARS SHIPPED BY ALL PRODUCERS (EXCEPT CAR SHOPS OPERATED BY RAILROADS) IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3742-	Railroads and street cars .....	108	172
	.....1963...	82	137
37421	Passenger train cars, new .....	14	275
	.....1963...	10	123
37422	Freight train cars, new .....	164	150
	.....1963...	101	145





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Jefferson Building  
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U.S. DEPARTMENT OF COMMERCE  
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OFFICIAL BUSINESS

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U.S. DEPARTMENT OF COMMERCE

# 1963 CENSUS OF MANUFACTURES

MC63(P)-37C-5

## INDUSTRY SERIES

### Motorcycles, bicycles, and parts SIC Code 3751

preliminary  
report

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Motorcycles, Bicycles, and Parts Industry had total shipments valued at \$189 million, an increase of 56 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 25 percent from 1958 and 5 percent from 1962 to a total of 9 thousand employees in 1963. Value added by manufacture amounted to \$80 million in 1963, an increase of 54 percent from 1958 and 8 percent from 1962.

The Motorcycles, Bicycles, and Parts Industry includes establishments engaged primarily in the manufacture of motorcycles, motorscooters, motorbikes, bicycles, motorized golf carts, and their parts.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE MOTORCYCLES, BICYCLES, AND PARTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3751)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	85	30	9,462	47,425	7,782	14,880	33,834	80,319	109,963	189,029	3,071	(X)
1962.....	(NA)	(NA)	9,028	42,944	7,314	13,974	30,072	74,162	102,861	172,600	3,321	5
1961.....	(NA)	(NA)	8,232	38,249	6,630	12,774	26,920	59,166	93,640	153,065	2,580	4
1960.....	(NA)	(NA)	8,341	37,460	6,749	12,555	26,704	61,226	84,616	143,122	3,102	2
1959.....	(NA)	(NA)	8,664	38,687	7,108	13,820	28,551	66,952	86,514	149,734	3,267	1
1958.....	51	29	7,578	33,020	6,179	12,213	24,115	52,125	69,106	121,527	2,549	(X)
1954 <sup>3</sup> .....	46	29	7,061	28,060	5,979	11,121	21,639	40,177	57,983	100,477	1,476	(X)
1947 <sup>3</sup> .....	76	40	15,615	45,661	13,659	28,245	37,732	72,838	90,832	163,670	4,600	(X)
1939 <sup>3</sup> .....	36	(NA)	8,302	11,863	6,973	(NA)	8,974	19,011	24,041	43,052	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

January 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic

importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Motorcycles, Bicycles, and Parts Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Motorcycles, Bicycles, and Parts Industry amounted to \$189 million. Of this total, \$31 million were products primary to other industries; and \$9 million were receipts for miscellaneous activities. The industry shipments of primary products represented 83 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 84 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$161 million of motorcycles, bicycles, and parts were shipped by all producers of these products. Of this total, \$149 million, or 93 percent, were shipped by plants classified in Industry 3751, Motorcycles, Bicycles, and Parts, while the remainder was shipped by plants classified in other industries. The comparable percentage for 1958 was also 93.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries, and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also

their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.

Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

#### 1963 CENSUS OF MANUFACTURES

Table 2.--GENERAL STATISTICS FOR THE MOTORCYCLES, BICYCLES, AND PARTS INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3751)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	85	30	9,462	47,425	7,782	14,880	33,834	80,319	109,963	189,029	3,071	7,578	52,125
Northeast.....	18	8	1,426	6,304	1,195	2,216	4,736	11,775	15,878	27,565	( <sup>1</sup> )	1,462	9,097
North Central.....	24	11	3,975	22,379	3,017	5,900	15,552	34,887	46,907	81,412	1,332	3,650	27,205
Ohio.....	9	3	489	2,407	435	841	2,022	6,965	11,072	16,895	( <sup>1</sup> )	592	4,906
South and West.....	43	11	4,061	18,742	3,570	6,764	13,546	33,657	47,178	80,052	1,598	2,467	15,823

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor importance in the State. (Additional publishable detail will appear in the final Census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3A.--QUANTITY AND VALUE OF MOTORCYCLES, BICYCLES, AND PARTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Motorcycles, Bicycles, and Parts Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3751	Bicycles, motorcycles, motorbikes, motor scooters, and parts, total.	.....	(X)	160,709	(X)	105,821
37510 13	Motorcycles, including 3-wheel (excluding sidecars); trail vehicles, motor scooters and motorbikes.....	Number of units	33,457	19,661	}	(X) 26,019
37510 53	Parts for motorcycles (including sidecars); trail vehicles, motorbikes, and motor scooters, including bicycle engines but excluding motorbike parts which are interchangeable with bicycle parts.....		(X)	9,053		
37510 61	Bicycles and parts: Bicycles, complete, excluding childrens' 2-wheel sidewalk cycles with semi-pneumatic tires.....	1,000 units....	3,811	96,642	2,049	59,612
37510 71	Parts for bicycles, including frame sets and motorbike parts which are interchangeable with bicycle parts.....	.....	(X)	23,040	(X)	16,830
37510 81	Motorized golf carts (electric and gasoline powered) for carrying passengers.....	Number of units	14,232	9,104	(NA)	(NA)
37510 00	Motorcycles, bicycles, and parts, not specified by kind.....	.....	(X)	3,209	(X)	2,360

(NA) Not available.

(X) Not applicable.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR MOTORCYCLES, BICYCLES, AND PARTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Index (1954 = 100)	
		Production	Unit value
3751	Motorcycles, bicycles, and parts .....1963... .....1958...	226 130	81 92

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-37C-6



## INDUSTRY SERIES

preliminary  
report

### Trailer coaches

SIC Code 3791

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Trailer Coaches Industry had total shipments valued at \$697 million, an increase of 51 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 36 percent from 1958, to a total of 25 thousand employees in 1963. Value added by manufacture amounted to \$230 million in 1963, an increase of 80 percent from 1958.

The Trailer Coaches Industry includes establishments engaged primarily in the manufacture of trailer coaches (mobile dwellings) for attachment to passenger cars.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE TRAILER COACHES INDUSTRY FOR SELECTED YEARS  
(SIC code 3791)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963.....	414	253	25,447	123,159	21,725	43,183	93,192	229,607	468,825	697,200	9,449
1958.....	386	209	18,717	77,129	16,004	30,613	58,969	127,683	332,071	461,053	7,726
1954 <sup>2</sup> .....	275	125	11,131	43,874	9,491	18,592	33,031	69,175	162,051	230,836	2,404
1947 <sup>2</sup> .....	220	(NA)	9,562	27,778	8,529	(NA)	22,892	50,943	87,063	138,006	3,424
1939 <sup>2</sup> .....	87	(NA)	(NA)	(NA)	1,531	(NA)	1,614	3,297	5,056	8,353	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geo-

graphic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Trailer Coaches Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Trailer Coaches Industry amounted to \$697 million. Of this total, \$19 million were products primary to other industries; and \$13 million were receipts for miscellaneous activities. The industry shipments of primary products represented 97 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 99 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$668 million of trailer coaches were shipped by all producers of these products. Of this total, \$665 million, or 99 percent, were shipped by plants classified in Industry 3791, Trailer Coaches, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 99.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries, and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregate production index. A comparable weighted aggregate unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, re-



## 1963 CENSUS OF MANUFACTURES

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pair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through

mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE TRAILER COACHES INDUSTRY BY REGIONS AND STATES: 1963 and 1958  
(SIC code 3791)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	414	253	25,447	123,159	21,725	43,183	93,192	229,607	468,825	697,200	9,449	18,717	127,683
New England.....	5	1	39	103	35	66	93	175	312	476	( <sup>1</sup> )	5	14
Middle Atlantic...	24	17	1,569	7,131	1,353	2,574	5,398	14,150	26,845	40,098	988	348	2,322
East North Central	130	79	8,979	49,436	7,418	15,054	35,722	90,015	184,573	274,736	3,667	8,620	64,847
Ohio.....	8	5	667	3,308	553	1,091	2,318	6,694	13,485	20,127	( <sup>1</sup> )	371	2,762
Indiana.....	64	48	3,978	22,417	3,269	6,383	16,054	38,588	93,825	132,404	1,795	3,444	27,326
West North Central	33	21	2,358	10,740	2,026	4,083	8,599	23,828	44,376	67,598	639	1,319	12,065
South.....	95	61	5,925	24,061	5,164	10,379	18,510	49,748	107,093	156,793	1,824	4,155	21,052
Florida.....	20	13	978	4,351	847	1,716	3,421	8,455	17,806	26,519	( <sup>1</sup> )	345	2,242
Texas.....	28	14	1,135	4,487	969	1,957	3,475	7,879	18,063	25,918	( <sup>1</sup> )	1,712	7,765
Mountain.....	38	14	1,039	4,736	883	1,756	3,565	7,281	16,348	24,023	( <sup>1</sup> )	603	3,177
Idaho.....	7	6	468	2,103	406	821	1,550	3,915	8,342	12,605	( <sup>1</sup> )	166	608
Pacific.....	89	60	5,338	26,952	4,846	9,271	21,305	44,410	89,278	133,476	1,827	3,667	24,206

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final Census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3A.--QUANTITY AND VALUE OF TRAILER COACHES, HOUSING TYPE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Trailer Coaches Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Number of units)	Value (\$1,000)	Quantity (Number of units)	Value (\$1,000 units)
3791---	Trailer <sup>1</sup> coaches, housing type.....	(X)	668,047	(X)	444,782
37910 21	Trailer coaches 30 feet or more in length:				
37910 23	8 feet to 9 feet 11 inches in width.....	15,132	59,934	135,158	418,861
37910 25	10 feet to 11 feet 11 inches in width.....	113,541	428,247		
	12 feet and over in width.....	15,884	83,990		
37910 31	Trailer coaches under 30 feet in length:				
37910 33	11 feet to 15 feet 11 inches in length.....	12,839	12,597	135,158	418,861
37910 35	16 feet to 24 feet 11 inches in length.....	21,672	38,328		
	25 feet to 29 feet 11 inches in length.....	4,757	14,017		
37910 41	Pick up coaches (for mounting on trucks).....	16,889	14,967		
37910 00	Trailer coaches, not specified by kind.....	(X)	15,937	(X)	25,921

(X) Not applicable.

<sup>1</sup>In 1958, an undetermined dollar amount of other automobile trailers (boat, camping, commercial display, etc.) was included in code 3791000.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR TRAILER COACHES, HOUSING TYPE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Index (1954 = 100)	
		Production	Unit value
3791	Trailer coaches, housing type.....1963....	280	110
	.....1958....	195	105

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-37C-7



INDUSTRY SERIES

preliminary  
report

## Transportation equipment, n. e. c.

SIC Code 3799

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Transportation Equipment, N.E.C., Industry had total shipments valued at \$160 million, an increase of 73 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 62 percent from 1958 to a total of 8 thousand employees in 1963. Value added by manufacture amounted to \$66 million in 1963, an increase of 71 percent from 1958.

The Transportation Equipment, N.E.C., Industry includes establishments engaged primarily in the manufacture of transportation equipment, not elsewhere classified. Establishments primarily engaged in manufacturing industrial trucks, tractors, trailers, and stackers are classified in Industry 3537, and children's vehicles except bicycles in Industry 3943.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.--GENERAL STATISTICS FOR THE TRANSPORTATION EQUIPMENT, N.E.C., INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3799)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	463	105	7,690	35,691	6,368	12,485	26,402	65,518	95,552	160,254	3,504
1958.....	256	69	4,761	20,448	3,795	7,360	14,173	38,215	55,095	92,811	2,430
1954 <sup>3</sup> .....	108	21	1,636	5,637	1,359	2,786	4,135	10,042	11,724	21,662	561
1947 <sup>3</sup> .....	168	(NA)	4,584	11,658	3,890	(NA)	8,794	20,663	26,180	46,843	1,227
1939 <sup>3</sup> .....	41	(NA)	1,543	1,725	1,252	(NA)	1,150	3,145	3,124	6,269	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

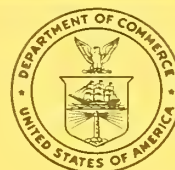
<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figure for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure

available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Transportation Equipment, N.E.C., Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Transportation Equipment, N.E.C., Industry amounted to \$160 million. Of this total, \$12 million were products primary to other industries; and \$9 million were receipts for miscellaneous activities. The industry shipments of primary products represent 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 86 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$202 million of transportation equipment, n.e.c., were shipped by all producers of these products. Of this total, \$139 million, or 69 percent, were shipped by plants classified in Industry 3799, Transportation Equipment, N.E.C., while the remainder was shipped by plants classified in other industries. The 1958 ratio was 73 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment" and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary



## 1963 CENSUS OF MANUFACTURES

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reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE TRANSPORTATION EQUIPMENT, N.E.C., INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3799)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employ-ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	463	105	7,690	35,691	6,368	12,485	26,402	65,518	95,552	160,254	3,504	4,761	38,215
Northeast.....	47	10	932	4,855	754	1,471	3,441	10,304	12,061	22,441	504	620	7,152
Pennsylvania....	21	5	473	2,477	391	765	1,889	6,561	5,044	11,531	(1)	450	3,435
East North Central	106	32	2,015	9,972	1,662	3,296	7,365	16,997	27,646	44,509	899	1,466	11,868
Indiana.....	27	9	595	3,354	482	963	2,423	6,340	12,005	18,310	(1)	490	3,737
West North Central	71	16	1,502	6,574	1,253	2,499	4,798	12,574	12,311	24,325	(1)	857	6,364
South.....	115	22	1,524	6,231	1,274	2,467	4,626	11,355	19,802	30,854	756	890	5,540
West.....	124	25	1,717	8,059	1,425	2,752	6,172	14,288	23,732	38,125	833	928	7,291

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.--QUANTITY AND VALUE OF TRANSPORTATION EQUIPMENT, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Transportation Equipment, N.E.C., Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3799- --	Transportation equipment, n.e.c., total.....	(X)	201,505	(X)	99,954
37991 --	Automobile trailers, excluding housing type coaches.....	(X)	67,454	(X)	22,653
37991 15	Automobile trailers, excluding housing type coaches (commercial display, utility, camp, etc.) complete units.....	73	59,837	25	11,888
37991 51	Chassis for automobile trailers, sold separately.....			54	10,765
37991 00	Automobile trailers, excluding housing type coaches, not specified by kind.....	(X)	7,617	(X)	-
37992 --	Other transportation equipment.....	(X)	119,550	(X)	77,301
	Farm wagons, trucks, and other farm transportation equipment and parts:				
	As reported in the census of manufactures.....	(X)	44,289	(X)	30,773
	As reported on Census Annual Form MA-35A.....	(X)	43,650	(X)	37,501
	Wagons and trucks (chassis only) and trailer gears:				
37992 13	2-wheel.....	5	617	2	604
37992 14	4-wheel.....	104	13,779	105	13,180
	Boxes and racks for mounting on wagons, trucks, and trailer gears:				
37992 15	Manual unloading or dump.....	24	5,211	40	6,883
	Power unloading:				
37992 16	Grain type (cannot handle forage).....	13	3,511		
	Forage type:				
37992 17	Rear unloading only.....	6	2,758	14	6,510
37992 18	Side unloading (with or without rear unloading).....	13	10,239		
37992 19	Other farm transportation equipment.....	(X)	3,643	(X)	2,885
37992 21	Attachments.....	(X)	2,026	(X)	3,772
37992 22	Parts.....	(X)	1,866	(X)	3,667
37992 31	Handcarts and pushcarts, including parts and attachments.....	(X)	6,636	(X)	8,855
37992 53	Wheelbarrows.....	1,200	8,239	(NA)	6,642
37992 91	Boat trailers.....	97	13,848	178	19,878
37992 98	Other miscellaneous transportation equipment.....	(X)	19,822	(X)	7,357
37992 99	Miscellaneous transportation equipment, not specified by kind.....	(X)	12,215	(X)	3,796
37990 00	Transportation equipment, n.e.c., not specified by kind.....	(X)	14,501	(X)	(NA)

- Represents zero. n.e.c. Not elsewhere classified. (NA) Not available. (X) Not applicable.

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# 1963 CENSUS OF MANUFACTURES

INDUSTRY SERIES

## Scientific instruments

SIC Code 3811

preliminary  
report

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Scientific Instruments Industry had total shipments valued at \$550 million, according to preliminary results obtained from the 1963 census. Average employment in this industry totaled 33 thousand employees and value added by manufacture amounted to \$357 million in 1963.

The Scientific Instruments Industry includes establishments engaged primarily in the manufacture of laboratory, scientific, and engineering instruments such as nautical, navigational, aeronautical, surveying, drafting, and instruments for laboratory work and scientific research (except optical instruments—Industry 3831). Establishments primarily engaged in manufacturing surgical and medical instruments are classified in Industry 3841; dental instruments and equipment in Industry 3843; mechanical measuring and controlling instruments in Industry 3821; machinists' precision measuring tools in Industry 3545; instruments for indicating, measuring, and recording electrical quantities and characteristics in Industry 3611; watches and clocks in Industry 3871; and measuring and dispensing pumps in Industry 3586.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

August 1965

Establishments primarily manufacturing such individual instruments as those used for indicating air speed, rate-of-climb, angle-of-yaw and similar flight characteristics, and gyroscopes which are sold separately, are classified in Industry 3811, "Scientific Instruments." Establishments primarily engaged in providing complete instrumentation systems (for navigation, guidance, and check-out, etc.), in one package are classified in Industry 3662, "Radio, TV Communications Equipment." During the period 1958-1963 some of the large establishments which formerly manufactured individual instruments, and therefore were classified in Industry 3811, began shipping complete navigational and guidance systems as their major products. These establishments have been reclassified into Industry 3662 for the 1963 Census of Manufactures.

However, it has not been possible to revise the annual survey of manufactures data for the years 1959-1962, inclusive, nor the 1958 census information. It is known that several of the plants shifted from the production of instruments to complete systems during this period but remained classified by census in the Instruments Industry, 3811. Sometimes the change was abrupt and complete whereas in other instances the transition was a gradual one with both types of output continuing for awhile. There was inadequate provision for systems in the product inquiries for the 1958 census and some respondents reported their output as instruments for lack of a better classification. It has not proven feasible for respondents at this time to identify the proportion of earlier years' output which consisted of systems rather than instrumentation.

This misclassification of systems and instruments was brought to light by the initiation by the Census Bureau of detailed commodity surveys in the fields of electronic products and instrumentation. The electronic and associated products report (MA-36N) was started covering the year 1961

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, A. Ross Eckler, Director



and the instruments series (MA-38B) was broadened for 1963 to encompass most types of instruments following an introductory report for 1961 and 1962 covering principally industrial process instruments and test and measuring equipment. Annual statistics from both reports are published in the Current Industrial Reports publications of the Census Bureau.

Therefore, a "statistical bridge" table has been prepared and included in table 1 of this report. That "bridge" presents general statistics for Industries 3811 and 3662, in combination. In view of the above, the annual data for 1958-1963 from the census and annual survey of manufactures are comparable only when Industries 3662 and 3811 are taken in combination. Accordingly, tables 1 and 2A show separate figures for Industry 3811 only for the year 1963. Combined data for Industries 3662 and 3811 are also shown in table 1 for the 1958-1963 period and geographically for 1958 and 1963 in table 2B.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

### VALUE ADDED BY MANUFACTURE

For 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel,

purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Scientific Instruments Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Scientific Instruments Industry amounted to \$550 million. Of this total, \$25 million were products primary to other industries; and \$128 million were receipts for miscellaneous activities. The industry shipments of primary products represent 94 percent of the total manufactured product shipments, primary and secondary.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$706 million of scientific instruments, were shipped by all producers of these products. Of this total, \$398 million, or 56 percent, were shipped by plants classified in Industry 3811, Scientific Instruments while the remainder was shipped by plants classified in other industries.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1, 2A, and 2B are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1, 2A, and 2B) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports



will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the

United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 1.—GENERAL STATISTICS FOR THE SCIENTIFIC INSTRUMENTS AND RADIO, TV COMMUNICATION EQUIPMENT INDUSTRIES FOR SELECTED YEARS  
(SIC codes 3811 and 3662)

SIC code	Item	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
		Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
3811	Scientific instruments:	594	213	33,081	208,368	22,089	44,772	119,759	356,660	199,658	550,376	15,665	(X)
3662 } 3811 }	Radio, TV Communication Equipment and Scientific instruments:												
	1963.....	1,707	832	417,994	2,991,629	225,564	460,062	1,335,672	4,635,866	3,175,748	7,621,594	153,446	(X)
	1962.....	(NA)	(NA)	377,091	2,704,223	202,849	428,845	1,330,356	4,130,443	2,909,964	6,920,768	137,752	4
	1961.....	(NA)	(NA)	335,888	2,307,341	178,957	376,886	1,055,473	3,424,950	2,631,347	6,019,130	128,654	2
	1960.....	(NA)	(NA)	284,515	1,871,437	162,781	350,062	923,915	2,851,948	2,352,022	5,099,541	113,547	2
	1959.....	(NA)	(NA)	241,794	1,514,234	145,892	306,214	793,018	2,349,043	2,052,283	4,322,923	94,050	1
	1958.....	1,084	471	206,045	1,209,644	125,043	251,630	620,053	2,001,468	1,568,903	3,587,126	76,271	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

## 1963 CENSUS OF MANUFACTURES

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Table 2A.—GENERAL STATISTICS FOR THE SCIENTIFIC INSTRUMENTS INDUSTRY BY GEOGRAPHIC AREAS: 1963

(SIC code 3811)

Geographic area	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
United States, total.....	594	213	33,081	208,368	22,089	44,772	119,759	356,660	199,658	550,376	15,655
New England.....	66	24	3,465	21,510	2,198	4,450	11,666	34,722	16,669	51,444	2,152
Massachusetts.....	35	14	2,747	16,978	1,716	3,476	8,860	27,089	11,462	38,773	1,831
Connecticut.....	21	7	535	3,489	337	694	2,090	5,769	3,741	9,393	( <sup>1</sup> )
Middle Atlantic.....	161	58	8,042	52,339	5,159	10,109	28,020	90,973	41,781	126,808	2,193
New York.....	74	23	4,896	33,751	2,749	5,249	15,836	56,940	19,512	70,716	1,001
New Jersey.....	48	20	2,154	13,128	1,645	3,381	8,596	21,814	14,658	35,826	902
Pennsylvania.....	39	15	992	5,460	765	1,479	3,588	12,219	7,611	20,266	( <sup>1</sup> )
North Central.....	139	46	11,393	71,334	7,812	15,482	44,333	120,040	75,856	195,798	7,594
Ohio.....	24	3	294	1,496	227	464	960	3,344	1,864	5,162	( <sup>1</sup> )
Illinois.....	55	22	3,018	17,526	1,988	3,979	9,900	36,673	24,512	60,309	1,361
Michigan.....	22	11	4,527	32,035	3,365	6,379	22,557	50,635	32,754	83,393	3,492
South.....	99	41	4,987	2,541	3,664	7,752	16,451	43,346	33,294	73,926	1,610
Maryland.....	14	7	770	4,533	500	1,326	2,964	7,369	4,648	12,501	( <sup>1</sup> )
Florida.....	8	2	254	1,219	187	363	685	2,304	723	3,046	( <sup>1</sup> )
Texas.....	40	15	1,740	9,335	1,360	2,672	6,736	11,188	10,530	20,490	514
Mountain.....	14	6	1,645	12,944	782	1,955	4,907	28,968	9,823	40,418	824
Pacific.....	115	38	3,549	24,830	2,474	5,024	14,382	38,611	22,235	61,982	1,282
California.....	111	36	3,414	24,027	2,383	4,860	13,942	37,386	21,591	60,145	1,253

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 2B.—GENERAL STATISTICS FOR THE SCIENTIFIC INSTRUMENTS AND RADIO, TV COMMUNICATION EQUIPMENT INDUSTRIES BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC codes 3811 and 3662)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,707	832	417,994	2,991,629	225,564	460,062	1,335,672	4,635,866	3,175,748	7,621,594	153,446	206,045	2,001,468
New England.....	201	110	43,718	305,137	23,599	48,900	140,693	472,460	361,057	831,918	11,316	19,315	198,332
Middle Atlantic...	500	255	134,539	1,010,446	73,908	148,270	476,462	1,436,548	880,288	2,352,194	39,528	87,240	888,454
North Central.....	332	138	69,333	444,217	37,727	77,037	196,863	737,294	622,853	1,383,339	26,587	39,034	354,774
South.....	253	133	66,585	448,524	36,723	75,631	188,809	749,219	475,264	1,210,929	29,356	34,518	318,828
Texas.....	71	30	10,583	71,313	5,799	12,850	35,242	146,674	73,682	205,399	9,502	5,743	40,779
West.....	421	196	103,819	783,305	53,607	110,224	332,845	1,240,345	836,286	1,843,214	46,659	25,938	241,080

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in these or associated industries or areas, or (b) because these industries were of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report of these industries.)



Table 3.—VALUE OF SCIENTIFIC INSTRUMENTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Scientific Instruments Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3811- --	Scientific instruments, total.....	706,458	( <sup>1</sup> )
38111 10	Aircraft, flight, nautical, and navigational instruments and automatic pilots: As reported in the census of manufactures.....	<sup>2</sup> 390,056	( <sup>1</sup> )
	As reported on Census Annual Form MA-38B <sup>3</sup> .....	<sup>2</sup> 346,000	(X)
38112 20	Laboratory and scientific instruments: As reported in the census of manufactures.....	198,213	<sup>r</sup> 152,597
	As reported on Census Annual Form MA-38B <sup>3</sup> .....	186,000	(X)
38113 --	Surveying and drafting instruments and laboratory furniture.....	100,941	<sup>r</sup> 76,463
38113 31	Surveying and drafting instruments and apparatus, except optical (including surveying instruments, transits, drawing instruments, drafting machines, slide rules, planimeters, integrators, etc.).....	23,295	} 16,459
38113 41	Photogrammetric equipment(excluding cameras).....	2,150	
38113 71	Laboratory precision balances (including accessories, attachments, and parts).....	7,891	3,692
	Laboratory furniture: Cabinets and cases:		
38113 81	Wood.....	31,767	<sup>r</sup> 26,471
38113 85	Metal.....	24,399	<sup>r</sup> 20,381
38113 89	Other (tables, stools, reagent shelves, etc.).....	11,439	9,460
38110 00	Scientific instruments, not specified by kind.....	17,248	19,726

(X) Not applicable. <sup>r</sup>Revised.

<sup>1</sup>Comparable data for 1958 not available. See text for more detailed explanation.

<sup>2</sup>The major difference between these two figures concerns the method of reporting parts and components for aircraft, flight, nautical, and navigational instruments and automatic pilots. Whereas, many respondents have included such parts under the broad heading in the census, parts were not covered in the 1963 MA-38B survey. While the exact value of such parts cannot be derived, it is approximately represented by the difference between the two sets of figures.

<sup>3</sup>Value shown is preliminary.



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- The speed with which the data are collected, assembled, and published. BCD is issued about the 22d of each month covering data for the preceding month.

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The presentation and classification of the time series in the BCD report follows the business indicators approach. The classification of series and the business cycle turning dates are those designed by the National Bureau of Economic Research which, in recent years, has been a leader in this field of investigation.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-38A-2



INDUSTRY SERIES

preliminary  
report

## Mechanical and measuring devices

SIC Code 3821

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Mechanical Measuring Devices Industry had total shipments valued at \$1,148 million, an increase of 58 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 26 percent from 1958 to a total of 63 thousand employees in 1963. Value added by manufacture amounted to \$732 million in 1963, an increase of 60 percent from 1958.

The Mechanical Measuring Devices Industry includes establishments engaged primarily in the manufacture of industrial process instruments, for indicating, recording, measuring and controlling temperature (except automatic temperature controls—Industry 3822), pressure and vacuum, fluid flow and liquid level, mechanical motion, rotation, humidity, density, acidity, alkalinity, and combustion; dial pressure gauges; physical property testing apparatus such as hardness, tension, compression, torsion, ductility; and, elasticity testing apparatus.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing

Table 1.—GENERAL STATISTICS FOR THE MECHANICAL MEASURING DEVICES INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 3821)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	666	259	63,208	392,866	41,088	82,777	226,077	732,092	419,636	1,147,543	29,805
1958 <sup>3</sup> .....	627	229	50,049	258,488	32,123	62,982	144,873	457,126	262,571	726,823	18,215

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

June 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March.

### VALUE ADDED BY MANUFACTURE

For 1958 and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Mechanical Measuring Devices Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Mechanical Measuring Devices Industry amounted to \$1,148 million. Of this total, \$225 million were products primary to other industries; and \$110 million were receipts for miscellaneous activities. The industry shipments of primary products represent 78 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 86 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$978 million of mechanical measuring instruments were shipped by all producers of these products. Of this total, \$812 million, or 83 percent, were shipped by plants classified in Industry 3821, Mechanical Measuring Devices, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 76 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE MECHANICAL MEASURING DEVICES INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3821)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	666	259	63,208	392,866	41,088	82,777	226,077	732,092	419,636	1,147,543	29,805	50,049	457,126
New England.....	80	41	14,988	95,868	8,714	17,558	47,759	166,539	86,902	253,816	6,561	12,527	112,247
Middle Atlantic...	205	82	20,801	131,985	14,286	28,428	80,840	257,388	128,908	381,796	8,638	20,585	186,159
North Central.....	177	69	20,215	124,193	13,717	27,986	74,594	235,432	155,831	386,408	11,077	11,728	106,325
Ohio.....	31	15	4,907	27,990	2,317	4,436	10,188	46,627	29,327	75,442	4,275	3,998	33,117
Illinois.....	56	25	7,093	40,436	5,076	10,266	25,159	86,278	44,629	129,132	2,039	4,144	41,399
South and West....	204	67	7,204	40,820	4,371	8,805	22,884	72,733	47,995	125,523	3,529	5,209	52,395
Maryland.....	15	4	411	2,130	312	529	1,184	3,921	1,718	5,536	(1)	104	967
Texas.....	26	9	483	2,742	333	687	1,791	7,355	5,060	12,593	(1)	459	6,521

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3.—VALUE OF MECHANICAL MEASURING INSTRUMENTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Mechanical Measuring Devices Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3821- --	Mechanical measuring instruments, total.....	977,788	760,780
	Aircraft engine instruments, except flight:		
38211 10	As reported in the census of manufactures.....	70,909	55,481
	As reported on Census Annual Form MA-38B <sup>1</sup> .....	65,000	(X)
	Integrating meters, nonelectrical type:		
38212 20	As reported in the census of manufactures.....	163,052	119,358
	As reported on Census Annual Form MA-38B <sup>1</sup> .....	149,000	(X)
	Industrial process instruments:		
38213 30	As reported in the census of manufactures.....	2516,724	403,286
	As reported on Census Annual Form MA-38B <sup>1</sup> .....	2468,000	(X)
38214 --	Motor vehicle instruments, except electric.....	96,448	70,787
38214 11	Speedometers for motor vehicles.....	41,833	70,477
38214 98	Other motor vehicle indicating instruments, except electric (fuel level, oil pressure, etc.).....	54,045	
38214 00	Motor vehicle instruments, except electric, not specified by kind.....	570	310
	Other mechanical measuring and controlling instruments (including nuclear radiation detection and monitoring instruments):		
38216 60	As reported in the census of manufactures.....	113,427	92,721
	As reported on Census Annual Form MA-38B <sup>1</sup> .....	108,000	(X)
38210 00	Mechanical measuring instruments, not specified by kind.....	17,228	19,147

(X) Not applicable.

<sup>1</sup>Value shown is preliminary. Detailed product statistics will be published later this year in Current Industrial Reports Series M38B, "Selected Instruments and Related Products."

<sup>2</sup>The major difference between these two figures concerns the method of reporting parts and components for industrial process instruments. Whereas many respondents have included such parts under the broad heading in the Census, parts were not covered in the 1963 MA-38B survey. While the exact value of such parts can not be derived, it is approximately represented by the difference between the two sets of figures.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-38A-3



INDUSTRY SERIES

preliminary  
report

## Automatic temperature controls

SIC Code 3822

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Automatic Temperature Controls Industry had total shipments valued at \$527 million, an increase of 47 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 24 percent from 1958 and 10 percent from 1962 to a total of 32 thousand employees in 1963. Value added by manufacture amounted to \$379 million in 1963, an increase of 46 percent from 1958 and 13 percent from 1962.

The Automatic Temperature Controls Industry includes establishments engaged primarily in the manufacture of automatic temperature controls activated by pressure, temperature, level, flow, time, or humidity (including pneumatic controls) of the type principally used as components of air conditioning, refrigeration, and comfort heating, or as components of household appliances. Establishments primarily engaged in manufacturing industrial electric controls are classified in Industry 3622.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.—GENERAL STATISTICS FOR THE AUTOMATIC TEMPERATURE CONTROLS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3822)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expendi- tures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	103	54	31,579	192,041	22,178	45,285	121,798	378,727	158,552	527,498	10,646	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	28,732	167,448	18,787	38,097	95,412	335,527	124,972	448,287	9,505	3
1961 <sup>2</sup> .....	(NA)	(NA)	28,251	158,752	18,807	38,614	93,690	324,568	114,855	418,097	13,393	2
1960 <sup>2</sup> .....	(NA)	(NA)	28,083	152,040	19,161	38,270	90,249	303,721	108,291	395,548	15,540	2
1959 <sup>2</sup> .....	(NA)	(NA)	28,181	151,232	19,190	39,299	91,802	287,681	108,534	392,091	(13,941)	1
1958 <sup>3</sup> .....	83	44	25,513	128,974	18,049	35,599	81,083	258,969	103,775	359,430	5,989	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

#### VALUE ADDED BY MANUFACTURE

For 1958-1963 value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Automatic Temperature Controls Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are

primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Automatic Temperature Controls Industry amounted to \$527 million. Of this total, \$88 million were products primary to other industries; and \$32 million were receipts for miscellaneous activities. The industry shipments of primary products represented 82 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 88 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$431 million of automatic temperature controls were shipped by all producers of these products. Of this total, \$407 million, or 95 percent, were shipped by plants classified in Industry 3822, Automatic Temperature Controls, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 94 percent.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in



1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted

every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE AUTOMATIC TEMPERATURE CONTROLS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3822)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	103	54	31,579	192,041	22,178	45,285	121,798	378,727	158,552	527,498	10,646	25,513	258,969
New England.....	10	6	2,620	14,389	1,709	3,884	8,865	26,025	10,224	36,081	640	2,223	16,406
Middle Atlantic...	21	11	2,847	16,035	2,149	4,090	10,734	27,375	14,313	41,453	536	2,280	17,831
North Central.....	44	23	19,867	125,252	13,487	27,094	75,188	257,793	104,169	354,085	6,702	15,467	165,729
Ohio.....	12	8	2,886	16,686	2,287	4,461	11,367	30,664	11,222	42,211	1,142	2,010	17,443
Illinois.....	13	5	5,617	34,879	3,591	7,395	19,935	76,630	26,607	101,415	2,494	3,634	47,574
South and West....	28	14	6,245	36,365	4,833	10,217	27,011	67,534	29,846	95,879	2,768	5,543	59,003

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

Table 3.—VALUE OF AUTOMATIC TEMPERATURE CONTROLS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Automatic Temperature Controls Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3822- --	Automatic temperature controls, total.....	430,853	319,855
	Automatic temperature controls of the type principally used as components of air conditioning, refrigeration, and comfort heating, or as components of major household appliances, including pneumatic controls:		
38220 10	As reported in the census of manufactures.....	430,853	319,855
	As reported on Census Annual Form MA-38B <sup>1</sup> .....	421,000	(X)

(X) Not applicable.

<sup>1</sup>Value shown is preliminary. Detailed product statistics will be published later this year in Current Industrial Reports Series M38B "Selected Instruments and Related Products."

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-38A-4



INDUSTRY SERIES

preliminary  
report

## Optical instruments and lenses

SIC Code 3831

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Optical Instruments and Lenses Industry had total shipments valued at \$193 million, an increase of 88 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 63 percent from 1958 to a total of 12 thousand employees in 1963. Value added by manufacture amounted to \$130 million in 1963, an increase of 115 percent from 1958.

The Optical Instruments and Lenses Industry includes establishments engaged primarily in the

production of optical lenses and prisms, and in manufacturing optical instruments such as microscopes, telescopes, field and opera glasses; and optical measuring and testing instruments such as refractometers, spectrometers, spectroscopes, colorimeters, and polariscopes. Establishments primarily engaged in manufacturing eyeglass lenses, frames, or fittings are classified in Industry 3851; and those engaged in manufacturing sighting and fire control instruments, but not engaged in manufacturing optical components, in Industry 1941.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date.

Table 1.—GENERAL STATISTICS FOR THE OPTICAL INSTRUMENTS AND LENSES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3831)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	267	78	11,685	77,897	8,123	16,351	46,301	129,825	65,697	193,346	6,076
1958.....	224	58	7,184	37,586	5,141	10,485	23,459	60,387	42,679	102,966	3,438
1954 <sup>1</sup> .....	204	60	8,749	38,352	6,683	13,426	25,624	55,371	24,840	83,339	3,816
1947 <sup>3</sup> .....	115	35	8,478	24,737	6,682	10,820	17,965	34,090	11,254	45,344	1,520
1939 <sup>3</sup> .....	31	(NA)	3,016	4,684	2,209	(NA)	3,266	7,159	1,531	8,690	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954, 1958, and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963 value added by manufacture represents adjusted value added; for 1939 and 1947 it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Optical Instruments and Lenses Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Optical Instruments and Lenses Industry amounted to \$193 million. Of this total, \$15 million were products primary to other industries; and \$21 million were receipts for miscellaneous activities. The industry shipments of primary products represent 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 90 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$267 million of optical instruments and lenses were shipped by all producers of these products. Of this total, \$157 million, or 59 percent, were shipped by plants classified in Industry 3831, Optical Instruments and Lenses, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 66 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

## 1963 CENSUS OF MANUFACTURES

Table 2.—GENERAL STATISTICS FOR THE OPTICAL INSTRUMENTS AND LENSES INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3831)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	267	78	11,685	77,897	8,123	16,351	46,301	129,825	65,697	193,346	6,076	7,184	60,387
New England.....	34	14	3,603	27,503	2,161	4,387	13,988	47,167	20,051	66,572	2,142	2,138	19,610
Middle Atlantic..	93	27	4,005	25,054	3,060	6,078	16,921	36,991	20,363	56,711	2,096	3,010	22,810
New York.....	57	16	3,056	18,831	2,233	4,437	12,041	28,053	15,087	43,086	1,422	2,599	20,451
North Central....	51	13	1,217	7,363	823	1,649	4,393	11,556	6,682	19,277	( <sup>1</sup> )	1,003	7,516
Illinois.....	19	8	681	4,240	472	971	2,577	7,120	2,467	9,406	( <sup>1</sup> )	721	5,402
South.....	20	6	759	3,345	631	1,185	2,340	8,311	6,891	14,278	( <sup>1</sup> )	325	4,371
West.....	69	18	2,101	14,632	1,448	3,052	8,659	25,800	11,710	36,508	1,341	708	6,080
California.....	57	17	2,016	14,190	1,389	2,932	8,353	25,005	11,171	35,187	1,306	660	5,738

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF OPTICAL INSTRUMENTS AND LENSES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Optical Instruments and Lenses Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3831- --	Optical instruments and lenses.....	267,005	115,481
38311 10	Optical and analytical instruments and lenses:		
	As reported in the census of manufactures.....	216,998	<sup>1</sup> 115,481
	As reported on Census Annual Form MA-38B <sup>2</sup> .....	199,000	(X)
38312 10	Sighting and fire control equipment made from lenses, prisms, etc., produced in the same plant:		
	As reported in the census of manufactures.....	50,007	( <sup>1</sup> )
	As reported on Census Annual Form MA-38B <sup>2</sup> .....	50,000	(X)

(X) Not applicable.

<sup>1</sup>1963 product class codes 38311 and 38312 combined are comparable to 1958 product class code 38310.

<sup>2</sup>Value shown is preliminary. Detailed product statistics will be published later this year in Current Industrial Reports Series, M38B "Selected Instruments and Related Products."

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-38A-5



INDUSTRY SERIES

preliminary  
report

## Surgical and medical instruments

SIC Code 3841

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Surgical and Medical Instruments Industry had total shipments valued at \$278 million, an increase of 113 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 45 percent from 1958 to a total of 15 thousand employees in 1963. Value added by manufacture amounted to \$164 million in 1963, an increase of 92 percent from 1958.

The Surgical and Medical Instruments Industry includes establishments engaged primarily in the manufacture of medical, surgical, ophthalmic, and veterinary instruments and apparatus.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE SURGICAL AND MEDICAL INSTRUMENTS INDUSTRY IN THE UNITED STATES: 1958 AND 1963

(SIC code 3841)

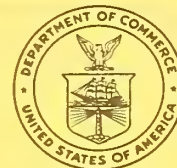
Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963.....	272	112	14,924	82,044	11,316	22,609	51,789	163,735	125,525	277,879	10,459
1958.....	231	88	10,293	44,878	8,061	16,162	31,039	85,153	48,944	130,477	2,812

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees is as follows: the figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; figures for production workers are based on employment for the payroll period ended nearest the 15th of March, May, August and November.

VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Surgical and Medical Instruments Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Surgical and Medical Instruments Industry amounted to \$278 million. Of this total, \$26 million were products primary to other industries; and \$40 million were receipts for miscellaneous activities. The industry shipments of primary products represented 89 percent of total manufactured product shipments, primary and secondary. The 1958 ratio was 83 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$276 million of surgical and medical instruments and apparatus were shipped by all producers of these products. Of this total, \$211 million, or 77 percent, were shipped by plants classified in Industry 3841, Surgical and Medical Instruments while the remainder was shipped by plants classified in other industries. The 1958 ratio was 76 percent.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE SURGICAL AND MEDICAL INSTRUMENTS INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3841)

Area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	272	112	14,924	82,044	11,316	22,609	51,789	163,735	125,525	277,879	10,459	10,293	85,153
New England.....	33	19	1,938	9,342	1,624	3,328	6,922	20,046	12,404	31,599	2,583	1,799	12,067
Massachusetts...	19	10	618	3,253	468	930	2,030	6,808	4,709	11,249	( <sup>1</sup> )	698	5,253
Middle Atlantic...	83	35	5,182	29,801	3,910	7,711	17,989	41,778	53,261	91,743	1,534	4,711	39,473
New York.....	51	22	2,474	12,616	1,882	3,723	8,250	22,280	14,949	35,857	962	2,251	16,188
East North Central	55	33	2,895	16,184	2,057	4,078	9,907	31,869	24,519	55,356	978	1,310	13,705
Ohio.....	16	9	622	3,163	464	930	2,072	6,279	3,578	9,194	( <sup>1</sup> )	389	3,170
Illinois.....	20	14	1,246	6,966	844	1,706	4,220	10,115	7,345	17,514	( <sup>1</sup> )	343	2,703
West North Central	22	10	1,741	8,972	1,447	2,919	6,294	22,585	14,094	35,844	1,239	1,109	8,045
South Atlantic....	13	3	591	3,256	502	1,087	2,581	9,682	4,719	12,522	1,731	78	458
East and West South Central....	13	3	407	1,791	337	628	1,214	3,982	1,529	5,282	( <sup>1</sup> )	421	3,098
West.....	53	9	2,170	12,698	1,439	2,858	6,882	33,790	14,999	45,533	2,182	865	8,307

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



Table 3A.—QUANTITY AND VALUE OF SURGICAL AND MEDICAL INSTRUMENTS AND APPARATUS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Surgical and Medical Instruments Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3841- --	Surgical and medical instruments and apparatus, total.....	(X)	276,053	(X)	130,570
38410 12	Surgical instruments, including suture needles, and eye, ear, nose, and throat instruments.....	(X)	22,341	(X)	10,362
38410 31	Orthopedic instruments, such as bone drills, bone plates, etc., excluding eye, ear, nose, and throat instruments.....	(X)	8,146	(X)	5,938
38410 51	Diagnostic apparatus, including such items as metabolism and blood pressure apparatus, ophthalmoscopes, otoscopes, cystoscopes, etc.....	(X)	18,562	(X)	9,650
38410 63	Hypodermic syringes:				
	Reusable.....	7,911	11,560	}	19,628
	Disposable:				
	Uniquely designed for pre-filling.....	115,974	11,329		
38410 68	Other.....	389,157	25,090		14,385
	Hypodermic needles:				
38410 73	Reusable.....	25,482	4,406	}	182,518
38410 75	Disposable.....	834,150	27,508		
38410 81	Other surgical and medical instruments, including anesthesia apparatus, transfusion equipment, blood donor kits, veterinary instruments.....	(X)	81,503	(X)	36,339
38410 91	Operating room furniture, including tables, cases, cabinets, etc.....	(X)	17,729	(X)	7,595
38410 95	Other hospital furniture, excluding operating equipment, beds, and instruments, but including cabinets, cases, desks, tables, bassinets, chart racks, back rests, etc.....	(X)	38,385	(X)	24,993
38410 00	Surgical and medical instruments and apparatus, not specified by kind....	(X)	9,494	(X)	8,798

(X) Not applicable.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR SURGICAL AND MEDICAL INSTRUMENTS AND APPARATUS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3841	Surgical and medical instruments and apparatus.....1963...	1,105	50
	1958...	168	78

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-38A-6



INDUSTRY SERIES

preliminary  
report

## Surgical appliances and supplies

SIC Code 3842

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Surgical Appliances and Supplies Industry had total shipments valued at \$592 million, an increase of 28 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 14 percent from 1958 to a total of 28 thousand employees in 1963. Value added by manufacture amounted to \$367 million in 1963, an increase of 42 percent from 1958.

The Surgical Appliances and Supplies Industry includes establishments engaged primarily in the manufacture of orthopedic, prosthetic, and surgical appliances and supplies, arch supports, and other foot appliances; fracture appliances, elastic hosiery, abdominal supporters, braces, and trusses; bandages; surgical gauze and dressings; sutures; adhesive tapes and medicated plasters; electronic and electrical hearing aids; and personal safety appliances and equipment.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957

Table 1.—GENERAL STATISTICS FOR THE SURGICAL APPLIANCES AND SUPPLIES INDUSTRY IN THE UNITED STATES: 1958 AND 1963

(SIC code 3842)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963.....	676	159	27,669	161,157	18,691	37,436	85,300	366,829	229,302	592,422	17,928
1958 <sup>2</sup> .....	590	161	24,179	114,867	16,277	31,460	62,122	257,640	200,377	461,846	9,110

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available for 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the years 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958 and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

#### VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Surgical Appliances and Supplies Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Surgical Appliances and Supplies Industry amounted to \$592 million. Of this total, \$104 million were products primary to other industries; and \$75 million were

receipts for miscellaneous activities. The industry shipments of primary products represented 80 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 84 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$461 million of orthopedic, prosthetic, and surgical appliances and supplies were shipped by all producers of these products. Of this total, \$413 million, or 90 percent, were shipped by plants classified in Industry 3842, Surgical Appliances and Supplies, while the remainder was shipped by plants classified in other industries. The 1958 ratio was also 90 percent.

#### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

#### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their



## 1963 CENSUS OF MANUFACTURES

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prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE SURGICAL APPLIANCES AND SUPPLIES INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3842)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	676	159	27,669	161,157	18,691	37,436	85,300	366,829	229,302	592,422	17,928	24,179	257,640
New England.....	66	28	3,946	16,958	3,042	5,950	11,660	33,850	23,205	54,882	1,511	2,790	19,003
Connecticut.....	15	12	1,927	8,186	1,317	2,549	4,956	17,741	11,673	28,632	516	1,885	12,891
Middle Atlantic...	161	39	11,007	75,564	6,282	13,018	32,880	165,693	88,959	252,376	7,873	9,646	113,821
New York.....	97	15	2,913	15,902	2,056	4,149	8,801	36,894	20,408	57,499	1,072	2,665	32,978
East North Central	146	41	6,372	38,494	4,518	8,977	21,743	108,856	67,865	178,620	5,455	7,716	90,633
Ohio.....	44	14	1,142	5,366	847	1,651	3,247	10,891	6,024	16,790	(1)	1,394	9,250
Illinois.....	49	16	3,910	27,094	2,681	5,458	14,825	82,878	53,657	138,687	4,897	4,675	67,521
Michigan.....	26	6	821	3,796	643	1,191	2,380	6,715	6,896	13,628	(1)	632	4,021
West North Central	53	13	1,346	6,297	915	1,820	3,621	10,973	10,461	21,603	(1)	1,287	9,467
Missouri.....	16	6	611	2,507	479	917	1,676	4,412	4,704	9,015	(1)	636	3,784
South and West....	250	38	4,998	23,844	3,934	7,671	15,396	47,457	38,812	84,941	2,665	2,740	24,716
California.....	85	19	1,746	10,617	1,257	2,263	6,009	19,368	11,565	30,019	921	967	8,999

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final Census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF ORTHOPEDIC, PROSTHETIC, AND SURGICAL APPLIANCES AND SUPPLIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Surgical Appliances and Supplies Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3842- --	Orthopedic, prosthetic, and surgical appliances and supplies, total.....		(X)	460,696	(X)	362,029
38421 --	Surgical, orthopedic, and prosthetic appliances and supplies.....		(X)	318,567	(X)	256,573
38421 11	Orthopedic appliances (braces), including parts.....		(X)	8,103	(X)	9,977
38421 15	Sterilizers (hospital and surgical) (excluding dental sterilizers).....		(X)	15,848	(X)	17,010
	Surgical dressings:					
38421 22	Bandages, elastic.....	1,000 sq. yds.	2,011	6,011	(NA)	6,144
38421 23	Bandages, other (including muslin, plaster of Paris, etc.; but excluding self-adhering bandages).....	...do.....	27,277	10,829	16,718	8,065
38421 24	Adhesive, plaster, medicated and nonmedicated (including self-adhering bandages).....		(X)	55,322	(X)	47,835
38421 27	Cotton, including cotton balls (sterile and nonsterile).....		(X)	15,006	(X)	22,324
38421 26	Gauze (absorbent and packing).....	1,000 sq. yds.	106,458	5,686		
38421 29	Other surgical dressings (including sponges, compresses, pads, etc.).....		(X)	30,825	(X)	29,854
38421 33	Sterile surgical sutures, absorbable.....		(X)	40,363	(X)	20,804
38421 34	Sterile surgical sutures, non-absorbable.....		(X)	10,356	(X)	8,198
38421 35	Artificial limbs (prosthetic) including parts.....		(X)	7,602	(X)	3,345
38421 38	Elastic stockings.....		(X)	8,298	(X)	7,017
38421 41	Elastic braces, suspensories, and other elastic supports.....		(X)	7,483	(X)	10,556
38421 45	Arch supports and other foot appliances.....		(X)	3,300	(X)	1,949
38421 51	Trusses.....		(X)	1,691	(X)	2,839
38421 61	Corn remover pads, bunion pads, etc.....		(X)	(1)	(X)	4,190
38421 71	Surgical corsets.....	1,000 dozen..	74	6,479	46	2,717
38421 98	Other surgical and orthopedic items not included in above categories (wheel chairs, infant incubators, respirators, splints, etc.).....		(X)	175,139	(X)	40,313
38421 00	Surgical, orthopedic, and prosthetic appliances and devices, not specified by kind.....		(X)	10,226	(X)	13,436
38423 --	Personal industrial safety devices.....		(X)	96,571	(X)	56,365
38423 11	Respiratory protection equipment (including gas masks, abrasive masks, canister masks, etc.).....		(X)	29,984	(X)	13,927
38423 31	Eye and face protection devices (including face shields, hoods, and welding helmets and masks) (excluding industrial goggles and eye protectors).....		(X)	11,331	(X)	2,374
38423 51	Protective clothing, except shoes.....		(X)	21,659	(X)	15,167
38423 61	First aid, snake bite and burn kits, both household and industrial types.....		(X)	7,023	(X)	5,667
38423 71	Other personal safety devices.....		(X)	26,574	(X)	19,230
38424 --	Electrical and electronic hearing aids.....		(X)	35,441	(X)	39,517
38424 11	Electrical hearing aids, complete units.....	1,000 units..	23	2,167		
38424 13	Electronic hearing aids, complete units.....	...do.....	332	33,274	400	39,517
38420 00	Orthopedic, prosthetic, and surgical appliances and supplies, not specified by kind.....		(X)	10,117	(X)	9,574

(NA) Not available. (X) Not applicable.

<sup>1</sup>Product code 3842161 is included with product code 3842198, "Other Surgical and Orthopedic Items" to avoid disclosing figures for individual companies.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR ORTHOPEDIC, PROSTHETIC, AND SURGICAL APPLIANCES AND SUPPLIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3842-	Orthopedic, prosthetic, and surgical appliances and supplies.....1963...	168	96
	.....1958...	118	107
38421	Surgical, orthopedic, and prosthetic appliances and supplies.....1963...	168	89
	.....1958...	103	116
38424	Electrical and electronic hearing aids.....1963...	116	105
	.....1958...	130	104

U.S. DEPARTMENT OF COMMERCE

BUREAU OF THE CENSUS  
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OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-38A-7



INDUSTRY SERIES

preliminary  
report

## Dental equipment and supplies

SIC Code 3843

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Dental Equipment and Supplies Industry had total shipments valued at \$147 million, an increase of 27 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 13 percent from 1958 and 9 percent from 1962 to a total of 8 thousand employees in 1963. Value added by manufacture amounted to \$95 million in 1963, an increase of 33 percent from 1958 and 8 percent from 1962.

The Dental Equipment and Supplies Industry includes establishments engaged primarily in the manufacture of artificial teeth, dental metals, alloys and amalgams, plus equipment, instruments and supplies used by dentists, dental laboratories, and dental colleges. However, dental laboratories constructing artificial dentures, bridges, inlays and other dental restorations on specifications from dentists are classified in service industries.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification

Table 1.—GENERAL STATISTICS FOR THE DENTAL EQUIPMENT AND SUPPLIES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3843)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	303	66	7,971	45,960	5,734	11,219	27,049	95,308	51,645	147,170	2,714	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	7,281	39,062	5,113	9,976	22,620	88,006	51,848	139,558	1,887	4
1961 <sup>2</sup> .....	(NA)	(NA)	7,387	38,057	5,225	10,048	22,222	76,278	48,265	124,047	1,286	3
1960 <sup>2</sup> .....	(NA)	(NA)	7,525	38,072	5,411	10,320	23,185	79,503	48,309	125,546	2,819	2
1959 <sup>2</sup> .....	(NA)	(NA)	7,240	36,322	5,231	10,210	22,096	74,972	44,052	118,221	1,764	1
1958.....	249	55	7,242	34,773	5,227	10,188	21,077	71,574	44,940	115,667	1,517	(X)
1954 <sup>3</sup> .....	197	49	7,103	28,206	5,107	10,366	17,974	53,290	30,706	79,171	1,434	(X)
1947 <sup>3</sup> .....	213	50	9,074	25,625	7,132	14,247	17,304	42,925	28,177	71,102	2,386	(X)
1939 <sup>3</sup> .....	(NA)	(NA)	5,708	8,499	4,245	(NA)	4,825	18,289	13,258	31,547	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





(SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Dental Equipment and Supplies Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Dental Equipment and Supplies Industry amounted to \$147 million. Of this total, \$9 million were products primary to other industries; and \$11 million were receipts for miscellaneous activities. The industry shipments of primary products represented 93 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$139 million of dental equipment and supplies were shipped by all producers of these products. Of this total, \$127 million, or 91 percent, were shipped by plants classified in Industry 3843, Dental Equipment and Supplies, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 92 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary

## 1963 CENSUS OF MANUFACTURES

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reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE DENTAL EQUIPMENT AND SUPPLIES INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958  
(SIC code 3843)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	303	66	7,971	45,960	5,734	11,219	27,049	95,308	51,645	147,170	2,714	7,042	71,574
New England.....	15	4	663	3,513	467	899	2,018	5,241	4,898	10,089	( <sup>1</sup> )	351	4,429
Middle Atlantic...	100	27	3,890	22,600	2,935	5,723	14,228	50,892	25,488	76,190	1,738	4,077	43,084
New York.....	62	13	2,091	14,259	1,437	2,920	8,313	29,549	19,903	49,420	1,074	2,317	26,251
North Central.....	77	18	1,742	10,376	1,153	2,303	5,870	20,439	11,065	31,299	( <sup>1</sup> )	1,616	13,995
Ohio.....	17	5	577	3,058	388	757	1,871	6,243	2,816	8,879	( <sup>1</sup> )	596	4,724
Illinois.....	31	7	724	4,304	455	892	2,286	8,526	4,869	13,301	( <sup>1</sup> )	688	6,204
South.....	30	7	665	3,641	427	814	1,503	7,604	4,631	12,361	( <sup>1</sup> )	530	4,948
Mountain.....	16	4	382	2,118	284	558	1,262	3,690	2,399	5,595	( <sup>1</sup> )	188	1,990
Pacific.....	65	6	629	3,712	468	922	2,168	7,442	3,164	11,636	( <sup>1</sup> )	280	3,128

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3A.—QUANTITY AND VALUE OF DENTAL EQUIPMENT AND SUPPLIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Dental Equipment and Supplies Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3843- --	Dental equipment and supplies, total.....	.....	(X)	139,145	(X)	110,680
	Dental metals:					
38430 11	Precious.....	1,000 troy oz.	797	19,492	(NA)	17,998
38430 15	Non-precious.....	...do.....	1,062	2,512		
38430 21	Dental alloys for amalgams.....	...do.....	1,537	2,700	950	1,505
	Teeth:					
38430 31	Porcelain.....	1,000 teeth...	60,493	12,615	64,882	10,439
38430 35	Other, including resinous and plastic.....	...do.....	28,219	5,064	20,726	3,461
38430 41	Denture materials.....	.....	(X)	9,549	(X)	2,962
38430 47	Dental professional equipment, including dental chairs, equipment units, cabinets, lights, etc.....	.....	(X)	27,204	(X)	24,906
38430 51	Dental laboratory equipment, including furnaces, casting machines, lathes, benches, polishing units, flasks, blow pipes, presses, etc.....	.....	(X)	6,063	(X)	2,988
38430 57	Dental hand instruments (forceps and pliers, broaches, cutting instruments, etc.).....	.....	(X)	8,074	(X)	10,192
38430 61	Burs, diamond points, abrasive points, wheels, disks, and similar tools for use with hand pieces.....	.....	(X)	7,513	(X)	6,198
38430 71	Waxes, cements, dental gypsums, impression materials, and other consumable supplies including low-fusing alloys.....	.....	(X)	12,372	(X)	12,242
38430 98	Other dental products, including dental sterilizers (excluding X-ray equipment).....	.....	(X)	19,579	(X)	7,328
38430 00	Dental instruments, equipment, and supplies, not specified by kind.....	.....	(X)	6,408	(X)	10,461

NA Not available. (X) Not applicable.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR DENTAL EQUIPMENT AND SUPPLIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954=100)	
		Production	Unit value
3843	Dental equipment and supplies.....1963...	139	126
	.....1958...	118	118

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-38A-8



INDUSTRY SERIES

preliminary  
report

Ophthalmic goods

SIC Code 3851

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Ophthalmic Goods Industry had total shipments valued at \$261 million, an increase of 34 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 11 percent from 1958 to a total of 20 thousand employees in 1963. Value added by manufacture amounted to \$176 million in 1963, an increase of 28 percent from 1958.

The Ophthalmic Goods Industry includes establishments engaged primarily in the manufacture of ophthalmic frames, lenses, and sunglass lenses.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE OPHTHALMIC GOODS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3851)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expendi- tures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963.....	219	105	20,377	97,025	16,621	33,173	69,974	175,758	86,360	260,699	8,890
1958.....	246	104	18,223	71,465	15,272	29,988	53,525	136,696	62,010	194,446	5,367
1954 <sup>2</sup> .....	238	101	18,464	64,536	15,355	29,960	48,332	107,059	48,306	159,061	5,042
1947 <sup>2</sup> .....	184	97	22,562	57,112	19,847	39,441	46,507	87,205	33,948	121,153	(NA)
1939 <sup>2</sup> .....	91	(NA)	13,497	19,271	10,252	(NA)	12,246	30,745	14,210	44,955	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>Data for Alaska and Hawaii are not included.

January 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic

importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels from 1958 to 1963.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Ophthalmic Goods Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Ophthalmic Goods Industry amounted to \$261 million. Of this total, \$42 million were products primary to other industries; and \$8 million were receipts for miscellaneous activities. The industry shipments of primary products represented 83 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 87 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$229 million of ophthalmic goods were shipped by all producers of these products. Of this total, \$211 million, or 92 percent, were shipped by plants classified in Industry 3851, Ophthalmic Goods, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 98.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries, and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, re-



pair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE OPHTHALMIC GOODS INDUSTRY BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3851)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
UNITED STATES, TOTAL.....	219	103	20,377	97,025	16,621	33,173	69,974	175,758	86,360	260,659	8,850	18,223	136,696
New England.....	31	21	5,569	24,218	4,753	9,197	18,448	55,953	25,497	81,940	3,377	4,681	41,824
Rhode Island....	14	7	969	3,727	842	1,554	2,852	5,689	4,199	10,059	( <sup>1</sup> )	863	4,519
Middle Atlantic...	100	46	9,818	51,156	7,749	15,714	35,708	78,512	37,532	115,545	4,047	9,872	74,126
New York.....	72	34	7,889	41,744	6,256	12,689	29,344	62,677	26,585	89,604	3,489	8,190	60,417
New Jersey.....	16	5	781	3,702	636	1,281	2,436	7,326	4,227	10,896	( <sup>1</sup> )	815	7,687
Pennsylvania....	12	7	1,148	5,710	857	1,744	3,928	8,509	6,720	15,045	( <sup>1</sup> )	867	6,022
East North Central	33	10	1,179	5,759	907	1,769	4,036	8,740	5,770	13,931	( <sup>1</sup> )	674	5,141
Ohio.....	10	3	266	1,170	223	453	904	1,200	1,236	2,531	-	226	1,078
Illinois.....	11	4	447	2,272	321	599	1,406	1,820	2,442	4,328	( <sup>1</sup> )	180	1,685
West North Central	17	11	838	3,646	710	1,462	2,753	5,773	4,274	9,956	( <sup>1</sup> )	664	3,848
Missouri.....	7	5	493	2,139	433	909	1,772	2,681	2,683	5,315	( <sup>1</sup> )	424	2,218
South Atlantic....	14	8	2,225	8,627	1,891	3,853	6,315	23,844	9,777	33,674	729	1,823	8,616
East and West													
South Central....	11	3	311	1,371	246	474	948	889	1,126	1,455	-	315	1,891
West.....	13	4	437	2,248	365	704	1,766	1,626	2,384	4,158	( <sup>1</sup> )	194	1,250
California.....	9	3	295	1,503	249	471	1,165	622	1,382	2,016	( <sup>1</sup> )	163	1,075

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final Census report on this industry.)

- Represents zero.

<sup>1</sup> Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3A.--QUANTITY AND VALUE OF OPHTHALMIC GOODS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Ophthalmic Goods Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3851- --	Ophthalmic goods, total.....		(X)	229,485	(X)	167,951
	Ophthalmic fronts, finished (with or without decoration):					
38510 12	Gold filled fronts, full rimmed or semirimmed.....	1,000 units	926	2,489	1,124	2,753
38510 14	Aluminum or other metal fronts.....	...do.....	709	2,451	428	1,553
38510 15	Plastic fronts.....	...do.....	20,076	26,682	16,417	20,027
38510 16	Combination fronts.....	...do.....	4,742	12,220	7,108	16,927
38510 17	Temples (all types), finished.....	1,000 pairs	24,059	24,173	26,144	25,736
38510 18	Centers, oxfords, parts, trim, unfinished fronts and temples, etc....	.....	(X)	6,836	(X)	6,774
38510 24	Ophthalmic spectacles and eyeglasses (frames and mountings of all types when sold corrective lenses inserted - with or without decoration).....	1,000 units	3,341	4,797	3,449	3,500
	Ophthalmic focus lenses:					
38510 32	Single vision lenses (ground and polished and moulded blanks).....	1,000 pairs	21,442	24,361	14,553	13,721
38510 35	Multifocal lenses (bifocals and trifocals; finished and semi-finished and moulded blanks).....	...do.....	14,047	41,174	13,899	28,098
38510 41	Industrial goggles, eye protectors, welding circles and plates, mountings, and parts.....	.....	(X)	22,977	(X)	13,923
38510 51	Sun or glare glasses and sunglasses, complete.....	1,000 units	30,719	42,385	16,780	14,445
38510 98	Other ophthalmic goods and accessories (sunglass frames, single readers and magnifiers, holders, gas mask inserts, etc.....	.....	(X)	11,422	(X)	9,231
38510 00	Ophthalmic goods, not specified by kind.....	.....	(X)	7,518	(X)	11,263

(X) Not applicable.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR OPHTHALMIC GOODS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3851	Ophthalmic goods.....1963...	137	123
	.....1958...	127	97

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WASHINGTON, D.C. 20233

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-38B-1

preliminary  
report

## INDUSTRY SERIES

### Photographic equipment

SIC Code 3861

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Photographic Equipment Industry had total shipments valued at \$1,837 million, an increase of 52 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 8 percent from 1958, to a total of 65 thousand employees in 1963. Value added by manufacture amounted to \$1,269 million in 1963, an increase of 61 percent from 1958.

The Photographic Equipment Industry includes establishments engaged primarily in the manufacture

of (1) photographic apparatus, equipment, parts, attachments, and accessories, such as still and motion picture cameras and projection apparatus; photocopy and microfilm equipment; blueprinting and diazotype (white printing) apparatus and equipment; and other photographic equipment; and (2) sensitized film, paper, cloth, and plates, and prepared photographic chemicals for use therewith.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE PHOTOGRAPHIC EQUIPMENT INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3861)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	532	187	65,026	499,266	39,303	77,878	251,845	1,269,117	581,341	1,837,162	78,659
1958.....	480	159	60,262	368,970	38,542	74,256	201,597	788,750	412,319	1,204,905	46,770
1954 <sup>3</sup> .....	449	150	63,008	308,324	43,827	86,196	189,745	595,900	354,834	960,119	38,664
1947 <sup>3</sup> .....	369	(NA)	55,624	172,973	42,365	(NA)	121,456	278,502	178,995	457,497	(NA)
1939 <sup>3</sup> .....	160	(NA)	23,248	38,873	16,434	(NA)	23,868	87,816	45,236	133,052	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available for 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the years 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent the average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954, 1958, and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1939 and 1947, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Photographic Equipment Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Photographic Equipment Industry amounted to \$1,837 million. Of this total, \$81 million were products primary to other industries; and \$196 million were receipts for miscellaneous activities. The industry shipments of primary products represented 95 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 94 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$1,607 million of photographic equipment and supplies were shipped by all producers of these products. Of this total, \$1,561 million, or 97 percent, were shipped by plants classified in Industry 3861, Photographic Equipment while the remainder was shipped by plants classified in other industries. The 1958 ratio was 94 percent.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.



## 1963 CENSUS OF MANUFACTURES

3

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE PHOTOGRAPHIC EQUIPMENT INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3861)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	532	187	65,026	499,266	39,303	77,878	251,845	1,269,117	581,341	1,837,162	78,659	60,262	788,750
New England.....	32	13	5,354	34,890	3,050	6,199	16,171	81,493	69,466	156,361	(D)	3,821	58,525
Massachusetts....	18	8	5,036	33,071	2,871	5,836	15,255	78,228	66,225	149,437	(D)	2,938	50,522
Middle Atlantic....	205	83	43,505	360,275	25,955	50,889	180,619	954,095	350,177	1,280,029	58,627	42,283	594,132
New York.....	143	57	39,443	333,244	23,051	45,244	164,801	884,259	302,772	1,162,216	53,105	38,715	560,130
New Jersey.....	43	16	3,652	24,991	2,611	5,057	14,618	65,859	41,134	107,547	5,300	3,213	31,009
Pennsylvania.....	19	10	410	2,040	293	588	1,200	3,977	6,271	10,262	(1)	355	2,993
East North Central.	121	45	9,696	60,155	6,193	11,865	31,196	162,569	109,344	275,618	5,420	10,045	97,011
Ohio.....	18	6	320	1,869	220	458	1,179	3,705	2,125	5,317	(1)	273	2,783
Illinois.....	68	31	7,798	50,319	4,820	9,276	25,139	100,208	80,917	185,765	2,809	7,903	76,314
Wisconsin.....	8	3	280	1,209	202	280	730	1,374	2,143	4,073	(1)	311	1,308
West North Central.	26	7	1,030	5,252	709	1,500	3,216	12,650	9,735	24,281	(1)	862	9,073
South.....	37	10	1,526	8,814	735	1,520	3,200	11,334	13,032	23,874	2,339	312	2,900
West.....	111	29	3,915	29,880	2,661	5,905	17,443	46,976	29,587	76,999	(D)	2,939	27,109

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF PHOTOGRAPHIC EQUIPMENT AND SUPPLIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Photographic Equipment and Supplies Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3861- --	Photographic equipment and supplies.....		(X)	1,606,762	(X)	1,061,317
38611 --	Still picture equipment.....		(X)	206,062	(X)	179,448
	Still cameras:					
	Hand type cameras:					
	Variable focus (or focusing type) with adjustable shutter speeds:					
	Using film, or paper, 35 MM or under:					
38611 06	Aperture and/or shutter speed set by built-in photoelectric device.....	No. of units			242,485	9,379
38611 08	All other.....	do.....				
	Using film or paper, over 35 MM, or sheet and pack film:					
	Aperture and/or shutter speed set by built-in photoelectric device.....	do.....			553,121	18,187
38611 14	All other.....	do.....	7,765,907	62,099		
	Other hand types (fixed focus and/or time and single shutter speed) using roll film:					
	Aperture and/or shutter speed set by built-in photoelectric device.....	do.....			2,954,514	15,861
38611 18	All other.....	do.....				
	Process cameras for photoengraving and photolithography: <sup>1</sup>					
38611 21	Cameras, under 31" x 31".....	do.....	2,262	4,727	814	2,767
38611 25	Cameras, 31" x 31" and over.....	do.....				
38611 31	Other still cameras, including view and studio for tripod or stand but excluding photocopying, microfilming, blueprinting, brownprinting, and whiteprinting.....		(X)	21,158	(X)	6,032
	Flash units (except built-in):					
	Electronic (Stroboscopic):					
38611 42	Portable, battery operated.....	No. of heads	49,474	2,348	257,970	2,503
38611 45	Studio type.....	No. of units	832	416	(NA)	( <sup>3</sup> )
38611 47	Nonelectronic (using disposable flashbulb).....	do.....	985,034	3,043	1,425,341	7,005
38611 10	Photographic exposure meters, complete (except built-ins).....		(X)	810	(NA)	( <sup>3</sup> )
	Projectors (with illumination source rated at 150 watts or more): <sup>4</sup>					
	Slide film.....	No. of units	452,093	22,067	520,128	18,132
38611 64	Strip film, including combination slide and strip.....	do.....			134,766	5,962
38611 66	Other, including overhead, opaque, etc.....	do.....	105,706	10,245	(NA)	( <sup>3</sup> )
38611 71	Still picture commercial type processing equipment, all types, including developing machines, continuous printing machines, and motor operated print washers and dryers.....		(X)	25,332	(X)	17,583
38611 81	Enlargers <sup>2</sup> .....	No. of heads	12,182	1,787	23,859	2,084
38611 98	Other still picture equipment, parts, attachments, and accessories (including projectors with illumination source rated at less than 150 watts and hand viewers but excluding lenses for sale separately and projection screens).....		(X)	48,851	(X)	354,219
38611 00	Still picture equipment (excluding photocopying, microfilming, blueprinting, Vandyke and whiteprinting), not specified by kind.....		(X)	3,179	(X)	19,734
38612 --	Photocopying, microfilming, blueprinting, brownprinting and whiteprinting equipment.....		(X)	201,673	(X)	57,668
	Photocopying equipment:					
38612 12	Contact types.....	No. of units	262,509	158,359	(X)	29,848
38612 15	Projection types.....	do.....	2,384	3,649		
38612 17	Microfilming equipment, including microfilm cameras, readers, printers, enlargers and other special purpose equipment for microfilm use.....		(X)	17,232	(X)	7,713
38612 21	Blueprinting and brownprinting equipment.....		(X)	10,912	(X)	15,829
38612 25	Whiteprinting equipment (direct process type).....					
38612 00	Photocopying equipment, not specified by kind.....		(X)	11,521	(X)	4,278
38613 --	Motion picture equipment.....		(X)	126,228	(X)	147,969
	8 MM and 16MM:					
	Cameras:					
	16 MM:					
38613 06	Aperture set by built-in photoelectric device.....	No. of units	25,528	11,985	18,842	3,648
38613 08	All other.....	do.....				
	8 MM:					
38613 11	Aperture set by built-in photoelectric device.....	do.....	511,030	21,715	1,094,279	45,620
38613 14	All other.....	do.....				
	Projectors (with illumination source rate at 150 watts or more): <sup>4</sup>					
38613 22	16 MM sound.....	do.....	41,296	14,423	36,723	12,183
38613 32	16 MM silent.....	do.....	2,659	768	9,865	1,251
38613 42	8 MM sound.....	do.....	475,716	25,169	684,606	36,082
38613 44	8 MM silent.....	do.....				
38613 52	Projection screens (for motion picture and/or still projection).....		1,402,015	13,582	(NA)	( <sup>6</sup> )
38613 61	Motion picture processing equipment, all types, including printing machines, developing machines, drying machines (excluding motion picture type equipment used for still picture work, and interchangeable types).....		(X)	8,979	(X)	1,423
38613 79	8 MM and 16 MM motion picture parts, attachments, accessories, and other 8 MM and 16 MM motion picture equipment, including sound recording (including projectors with illumination source rated at less than 150 watts and hand viewers but excluding lenses for sale separately).....		(X)	15,118	(X)	631,909

See footnotes at end of table.

Table 3A.—QUANTITY AND VALUE OF PHOTOGRAPHIC EQUIPMENT AND SUPPLIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958—Continued

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
	Motion picture equipment—Continued					
38613 81	35 MM and over: Cameras.....	No. of units	715	4,041	359	1,824
38613 91	Projectors: Standard projector mechanisms, including unit-type projectors.....	}	(X)	1,116	(X)	11,185
38613 95	Sound reproducing equipment.....					
38613 97	Arc lamphouses.....					
38613 98	35 MM and over motion picture parts, attachments, accessories, and other 35 MM and over motion picture equipment, including sound recording and studio equipment, excluding lenses for sale separately....		(X)	9,332		
38613 00	Motion picture equipment, not specified by kind.....		(X)	-	(X)	2,844
38615 --	Photographic sensitized film and plates.....		(X)	604,928	(X)	396,014
	Still picture black and white film:					
	X-ray film:					
38615 41	Medical.....	TSFSM(M) <sup>7</sup> ...	313,922	113,456	218,316	78,453
38615 43	Dental.....	do.....				
38615 45	Industrial.....	do.....				
38615 64	Sheet film and pack film other than graphic arts film (more than 25 ft. in length and more than 30 MM in width).....	do.....	43,366	32,949	26,986	18,866
38615 65	Graphic arts film (for orthographic, rotogravure, photoengraving and silk screen processing).....	do.....	186,781	63,033	107,141	36,229
38615 66	Photographic glass plates and slides.....	do.....	1,928	4,162	2,972	3,410
38615 00	Other film, including motion picture black and white and color film, amateur roll film, still color film, aerofilm, microfilm, etc. <sup>8</sup> 9.....	do.....	620,535	391,056	514,293	258,157
38615 99	Photographic sensitized film and plates, not specified by kind.....		(X)	272	(X)	899
38616 --	Sensitized photographic paper and cloth, silver halide type.....		(X)	191,306	(X)	123,963
38616 12,16	Roll form only, designed for continuous-tone reproduction (photo-finish, portrait, etc.) and line reproduction, recording, graphic arts, etc., other than photocopy process.....	TSFSM(M) <sup>7</sup> ...	(NA)	72,650	(NA)	123,963
38616 13,17	Sheet form only, designed for continuous-line reproduction (photo-finish, portrait, etc.) and line reproduction, recording, graphic arts, etc., other than photocopy process.....	do.....	(NA)	32,952		
38616 18	Designed for copying processes (including diffusion transfer, dye transfer, etc.).....	do.....	1,693,786	85,704		
38617 --	Sensitized photographic paper and cloth other than silver halide type.....		(X)	128,090	(X)	82,121
38617 11	Blueprint type.....	TSFSM(M) <sup>10</sup> ...	79,887	5,456	(NA)	8,293
	Diazotype (including film and plastic sheet):					
38617 13	Dry.....	do.....	572,632	45,968	413,790	40,631
38617 15	Semimist.....	do.....	196,655	15,641	184,439	14,381
38617 21	Brownprinting type.....	do.....	38,645	2,115	(NA)	1,141
	Sensitized paper for photocopy processes:					
38617 31	Electrostatic.....	TSFSM(M) <sup>7</sup> ...	1,281,152	51,115	(NA)	15,129
38617 32	Heat sensitive.....	do.....				
38617 39	Other types (including sensitized paper, film, and cloth for all other processes).....	do.....				
38617 00	Sensitized photographic paper and cloth other than silver halide type, not specified by kind.....		(X)	1,427	(X)	2,546
38618 11	Prepared photographic chemicals (developers, fixers, toners, and other chemicals specifically prepared and packaged for use in photography)....		(X)	74,429	(X)	35,854
38610 00	Photographic equipment and supplies, not specified by kind.....		(X)	74,046	(X)	38,280

(NA) Not available - Represents zero. (X) Not applicable.

<sup>1</sup>Values include stands and attachments shipped with process cameras.<sup>2</sup>Product code 3861142 was collected in number of units in 1958.<sup>3</sup>In 1958, studio type flash units; exposure meters; and projectors, other than slide film and strip film were included in product code 3861198. Also, 1958 data for code 3861198 excludes projectors with illumination source rated at less than 150 watts.<sup>4</sup>1958 data for both still and motion picture projectors include those with illumination source rated at less than 150 watts.<sup>5</sup>Quantity figures include heads shipped separately, as well as complete units. Value figures include the value of heads shipped separately, stands shipped separately and complete units shipped.<sup>6</sup>In 1958, projection screens were included in product code 3861379. Also, 1958 data for code 3861379 excludes projectors with illumination source rated at less than 150 watts.<sup>7</sup>Total square feet of sensitized material (in thousands).<sup>8</sup>Motion picture film, amateur roll film, and other film were combined to avoid disclosing figures of individual companies. Motion picture film was reported in linear feet by width and has been converted to TSFSM. Amateur roll film and other film were collected in TSFSM. In 1963, the statistics published for product code 3861500 were collected separately as product codes 3861511, 3861512, 3861513, 3861515, 3861521, 3861522, 3861523, 3861525, 3861531, 3861532, 3861533, 3861535, 3861551, 3861552, 3861553, 3861555, 3861561, 3861562, 3861567, 3861569, 3861571, 3861575, and 3861577.<sup>9</sup>Includes an indeterminate amount of duplication resulting from film shipped by one film producer to another film producer for further manufacturing process.<sup>10</sup>Total square yards of sensitized material (in thousands).



## 1963 CENSUS OF MANUFACTURES

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR PHOTOGRAPHIC EQUIPMENT AND SUPPLIES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3861	Photographic equipment and supplies.....1963...	185	113
	1958...	124	111
38611	Still picture equipment.....1963...	99	122
	1958...	90	117
38613	Motion picture equipment.....1963...	199	59
	1958...	134	102
38615	Photographic sensitized film and plate.....1963...	165	124
	1958...	125	106
38616	Sensitized photographic paper and cloth, silver halide type.....1963...	129	187
	1958...	104	151
38617	Sensitized photographic paper and cloth, other than silver halide type.....1963...	308	88
	1958...	170	102

# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.

**U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
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# 1963 CENSUS OF MANUFACTURES

MC63(P)-38B-2



INDUSTRY SERIES

preliminary  
report

## Watches and clocks

SIC Code 3871

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Watches and Clocks Industry had total shipments valued at \$501 million, an increase of 50 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 13 percent from 1958 and 11 percent from 1962 to a total of 27 thousand employees in 1963. Value added by manufacture amounted to \$281 million in 1963, an increase of 70 percent from 1958 and 17 percent from 1962.

The Watches and Clocks Industry includes establishments engaged primarily in the manufacture of clocks (including electric), watches, mechanisms for clockwork operated devices, and clock and watch parts. This industry includes establishments primarily engaged in assembling clocks and watches from purchased movements and cases. Establishments primarily engaged in manufacturing watchcases are classified in Industry 3872, glass crystals in Industry 3231, and unbreakable crystals in Industry 3079.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report

Table 1.--GENERAL STATISTICS FOR THE WATCHES AND CLOCKS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3871)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	167	76	26,610	141,504	20,713	40,579	90,918	280,667	227,409	500,852	8,529	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	24,029	127,734	18,053	35,445	77,890	240,142	191,560	427,266	(8,031)	6
1961 <sup>2</sup> .....	(NA)	(NA)	22,429	118,088	16,396	32,603	71,169	219,657	187,057	403,081	(9,365)	5
1960 <sup>2</sup> .....	(NA)	(NA)	24,673	124,430	18,748	36,045	76,016	225,703	189,689	408,508	(5,122)	4
1959 <sup>2</sup> .....	(NA)	(NA)	25,434	125,100	20,184	40,025	81,530	240,839	180,745	406,681	4,552	2
1958.....	168	65	23,505	106,739	18,308	36,080	70,808	165,158	158,285	334,928	4,607	(X)
1954 <sup>3</sup> .....	145	59	25,708	103,232	20,282	39,125	67,962	181,868	162,235	343,786	3,511	(X)
1947 <sup>3</sup> .....	194	73	34,623	93,331	30,237	60,899	70,372	169,474	171,725	341,199	4,743	(X)
1939 <sup>3</sup> .....	64	(NA)	(NA)	(NA)	17,335	(NA)	19,619	47,169	34,306	81,475	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954 and 1958-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of

products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Watches and Clocks Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Watches and Clocks Industry amounted to \$501 million. Of this total, \$98 million were products primary to other industries; and \$27 million were receipts for miscellaneous activities. The industry shipments of primary products represented 79 percent of the total manufactured product shipments primary and secondary. The 1958 ratio was 88 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$402 million of watches and clocks were shipped by all producers of these products. Of this total, \$376 million, or 93 percent, were shipped by plants classified in Industry 3871, Watches and Clocks, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 95 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary



reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE WATCHES AND CLOCKS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3871)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	167	76	26,610	141,504	20,713	40,579	90,918	280,667	227,409	500,852	8,529	23,505	165,158
New England.....	20	14	7,167	38,456	5,258	10,123	23,836	89,253	47,499	136,485	1,799	7,545	48,307
Massachusetts....	9	6	3,282	17,389	2,461	4,696	11,675	45,168	17,729	62,472	1,105	2,502	22,899
Connecticut.....	10	8	3,883	21,061	2,796	5,425	12,157	44,076	29,765	73,998	693	5,043	25,408
All other divisions.....	147	62	19,443	103,048	15,455	30,456	67,082	191,414	179,910	364,367	6,730	15,960	116,851
New York.....	68	24	4,625	30,278	3,281	6,509	15,875	56,305	77,539	132,632	970	3,462	34,501
Illinois.....	24	14	6,385	34,305	5,080	9,789	23,255	61,055	42,610	100,875	2,074	6,445	31,891

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)



Table 3.--QUANTITY AND VALUE OF WATCHES, CLOCKS, AND PARTS, EXCEPT WATCHCASES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Watches and Clocks Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (number of units)	Value (\$1,000)	Quantity (number of units)	Value (\$1,000)
3871- --	Watches, clocks, and parts, except watchcases.....	(X)	402,095	(X)	291,524
38711 --	Clocks.....	(X)	169,983	(X)	111,385
	Electric clocks, complete, frequency motor (synchronous or subsynchronous, except as specified below in "Other clocks, complete"):				
38711 11	Alarm, excluding clock timers and timing mechanisms.....	6,442,264	21,079	4,045,454	13,653
38711 12	Household, wall, except alarm.....	3,874,130	17,246	3,024,279	10,499
38711 13	Household, all other, except alarm and wall, including chime and strike, occasional, desk, and mantel.....	994,578	5,826	3,056,634	11,459
38711 15	Commercial, including office, factory, and school.....	770,003	6,715	323,454	2,333
	Spring wound and weight operated clocks, except automobile clocks and as specified below in "Other clocks, complete":				
38711 21	Alarm.....			7,453,900	19,889
38711 23	Household and commercial, except alarm, including chime and strike, kitchen, desk, mantel and wall.....	6,870,306	21,677	(NA)	2,599
38711 27	Automobile clocks, including manual, self-winding, and electric.....	( <sup>1</sup> )	( <sup>1</sup> )	2,071,469	9,444
38711 28	Timers and switch clocks having hands and dials for telling time of day (including electric and spring wound).....	1,440,611	4,870		
38711 31	Other clocks, complete (tower, street, master, magnet operated secondary clocks, chronometers, etc.).....	(X)	122,564	(X)	3,082
38711 53	Clock movements, complete but not cased for timepiece use, including clocks for clock radios, including electric and spring wound.....	4,838,065	10,357	1,492,288	3,530
	Timing mechanisms, not for timepiece use, including elapsed time indicators, delay timers, program timers, etc., and mechanisms for recording and controlling instruments, parking meters, driving mechanisms, metronomes and other devices but excluding time recording and time stamp machines:				
38711 61	Electric.....	10,009,790	49,433	5,962,794	24,592
38711 65	Spring wound.....	3,548,987	8,621	(NA)	9,812
38711 00	Clocks, not specified by kind.....	(X)	1,595	(X)	493
38714 --	Watches with imported movements.....	(X)	112,793	(X)	83,710
	Jeweled-lever escapement (excluding battery powered):				
	Men's wrist:				
38714 12	17 jewels and under.....	2,982,709	49,771		
38714 19	Over 17 jewels.....	235,564	3,904	1,821,455	39,618
	Women's wrist:				
38714 22	17 jewels and under.....	2,641,441	49,572		
38714 29	Over 17 jewels.....			1,644,816	34,948
38714 39	Other, including pocket, lapel, etc.....	207,768	4,421	13,823	281
38714 62	Pin-lever escapement-all types (excluding travel and automobile clocks, etc., with watch movements).....				
38714 65	Battery powered.....	563,236	4,079	1,117,044	7,355
38714 00	Watches with imported movements (all types), not specified by kind.....	(X)	593	(NA)	(NA)
38715 --	Watches with domestic movements and parts for all clock and watches.....	(X)	102,029	(X)	85,331
	Jeweled lever escapement type watches (excluding battery powered):				
	Men's wrist:				
38715 12	17 jewels and under.....				
38715 19	Over 17 jewels.....	930,799	20,624	455,604	14,620
	Women's wrist:				
38715 22	17 jewels and under.....				
38715 29	Over 17 jewels.....	314,792	27,741	719,131	21,192
38715 39	Other, including pocket, lapel, etc.....	-	-	22,540	1,127
	Pin-lever escapement type watches, jeweled and nonjeweled:				
	Wrist:				
38715 53	Men's.....			5,823,919	31,612
38715 55	Women's.....				
38715 79	Other, including pocket, lapel, etc. (excluding travel and automobile clocks, etc., with watch movements).....	(X)	41,188	2,386,263	4,276
38715 80	Battery powered.....			(NA)	(NA)
	Clock and watch parts, except watch crystals:				
38715 81	Clock case and clock parts, excluding timing motors.....			(X)	3,185
38715 87	Watch movements, complete, for sale separately (excluding those purchased and resold in the same condition) <sup>2</sup> .....				
38715 89	Watch parts for sale separately, except watchcases, and watch crystals, excluding interplant transfers (excluding those purchased and resold in the same condition) <sup>2</sup> .....	(X)	6,723	(X)	6,691
38715 00	Clocks and watch parts, except watch crystals, not specified by kind.....	(X)	1,177	(X)	2,628
38710 00	Interplant transfers of clock and watch parts and semifinished components, and watches, clocks and parts, not specified by kind.....	(X)	17,290	(X)	11,098

- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>Automobile clocks included with other complete clocks for 1963.<sup>2</sup>Includes only watch parts and watch movements produced domestically, watch parts and watch movements imported by watch assemblers and resold in the same condition are excluded.

# 1963 CENSUS OF MANUFACTURES

MC63(P)-385-3



INDUSTRY SERIES

preliminary  
report

Watchcases

SIC Code 3872

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Watchcases Industry had total shipments valued at \$34 million, a decrease of 3 percent from 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 2 percent from 1958 to a total of 3 thousand employees in 1963. Value added by manufacture amounted to \$19 million in 1963, an increase of 5 percent from 1958.

The Watchcases Industry includes establishments engaged primarily in the manufacture of Watchcases.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE WATCHCASES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3872)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	53	22	2,706	13,415	2,302	4,548	10,375	19,228	13,391	33,620	501
1958.....	61	24	2,652	12,574	2,227	4,352	9,434	18,398	14,836	34,660	( <sup>3</sup> )
1954.....	64	28	3,795	15,957	3,308	6,612	12,841	18,808	14,990	35,229	( <sup>3</sup> )
1947.....	82	31	5,558	16,980	4,880	10,199	13,091	24,986	19,508	44,494	521
1939.....	42	(NA)	3,080	4,298	2,409	(NA)	2,940	5,804	3,988	9,792	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Less than \$500 thousand.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





## ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

## EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1954, 1958 and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and 1939, the figure represents the average of 12 monthly figures.

## VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

## VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Watchcases Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Watchcases Industry amounted to \$34 million. Of this total, \$5 million were products primary to other industries; and \$1 million were receipts for miscellaneous activities. The industry shipments of primary products represented 85 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 80 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$29 million of watchcases were shipped by all producers of these products. Of this total, \$28 million, or 97 percent were shipped by plants classified in Industry 3872, Watchcases, while the remainder was shipped by plants classified in other industries. The 1958 ratio was 98 percent.

## GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE WATCHCASES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(Preliminary State and regional detail not available without further review)

Table 3.—QUANTITY AND VALUE OF WATCHCASES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Watchcases Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Number)	Value (\$1,000)	Quantity (Number)	Value (\$1,000)
3872- --	Watchcases.....	(X)	28,946	(X)	27,798
38720 --	Watchcases:				
	For jeweled watch movements:				
	Men's wristwatch cases:				
38720 11	Karat gold and platinum.....	127,424	2,063	162,699	2,313
38720 13	Gold filled.....	254,526	2,137	347,762	1,855
38720 15	Rolled gold plate and sterling silver, including rolled gold plate with steel back.....	2,769,708	6,320	878,255	3,274
38720 19	Other metals.....			392,877	814
	Women's wristwatch cases:				
38720 21	Karat gold and platinum.....	425,393	3,903	626,539	5,334
38720 23	Gold filled.....	170,448	964	239,796	993
38720 25	Rolled gold plate and sterling silver, including rolled gold plate with steel back.....	4,752,526	7,130	1,491,528	3,787
38720 29	Other metals.....	1,007,877	1,316	60,909	197
38720 31	Pocket and other watchcases (all qualities).....	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	For nonjeweled or pin-lever watch movements:				
	Wristwatch cases:				
38720 51	Gold filled, rolled gold plate, and sterling silver, including rolled gold plate with steel back.....	385,591	748	498,660	909
38720 59	Other metals.....				
38720 71	Pocket and other watchcases (all qualities).....	1318,555	12,352	167,182	1306
38720 00	Watchcases, not specified by kind.....	(X)	1,513	(X)	8,016

(X) Not applicable. - Represents zero.

<sup>1</sup>Womens' pocket and other watchcases for jeweled watch movements combined with pocket and other watchcases for nonjeweled or pin-lever watch movements.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-39A-1



INDUSTRY SERIES

preliminary  
report

## Jewelry, precious metal

SIC Code 3911

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Jewelry, Precious Metal Industry had total shipments valued at \$484 million, an increase of 48 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 13 percent from 1958 and 10 percent from 1962 to a total of 24 thousand employees in 1963. Value added by manufacture amounted to \$236 million in 1963, an increase of 41 percent from 1958 and 16 percent from 1962.

The Jewelry, Precious Metal Industry includes establishments engaged primarily in the manufacture of rings, women's and children's jewelry, watch attachments, school jewelry and emblems, and other jewelry made of precious metals.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE JEWELRY (PRECIOUS METAL) INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3911)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	1,438	220	23,899	126,923	17,641	36,130	80,011	235,561	249,982	483,830	4,613	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	21,740	112,888	16,092	34,617	72,533	203,942	210,974	411,367	1,764	5
1961 <sup>2</sup> .....	(NA)	(NA)	21,384	106,495	15,753	33,392	67,824	189,561	198,019	386,492	2,384	4
1960 <sup>2</sup> .....	(NA)	(NA)	20,775	102,578	15,459	32,476	65,456	188,953	182,280	362,719	2,424	3
1959 <sup>2</sup> .....	(NA)	(NA)	20,596	99,136	15,510	32,137	64,107	174,567	173,512	348,324	(2,850)	1
1958.....	1,302	183	21,196	95,134	15,924	30,749	60,726	166,579	160,480	327,251	3,461	(X)
1954 <sup>3</sup> .....	1,327	204	23,455	90,373	18,440	36,438	58,382	149,600	123,312	273,537	1,836	(X)
1947 <sup>3</sup> .....	1,344	254	25,566	76,462	20,610	42,877	54,222	140,478	107,707	248,185	2,674	(X)
1939 <sup>3</sup> .....	886	(NA)	15,058	22,388	11,358	(NA)	14,243	36,822	34,597	71,419	(NA)	(X)

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Jewelry, Precious Metal Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Jewelry, Precious Metal Industry amounted to \$484 million. Of this total, \$41 million were products primary to other industries; and \$63 million were receipts for miscellaneous activities. The industry shipments of primary products represented 90 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$396 million of Jewelry, Precious Metals were shipped by all producers of these products. Of this total, \$380 million, or 96 percent, were shipped by plants classified in Industry 3911, Jewelry, Precious Metal while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 97 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.) This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE JEWELRY, PRECIOUS METAL INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3911)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	1,438	220	23,899	126,923	17,641	36,130	80,011	235,561	249,982	483,830	4,613	21,196	166,579
New England.....	189	63	7,598	37,875	5,830	12,219	22,736	64,637	38,011	103,106	2,310	6,787	41,451
Massachusetts....	60	22	4,147	23,073	2,943	6,330	12,336	32,485	18,528	51,083	1,619	3,293	20,014
Rhode Island....	119	41	3,414	14,601	2,860	5,830	10,257	31,962	19,243	51,550	689	3,448	21,132
Middle Atlantic...	912	117	11,530	63,923	8,387	16,819	40,421	117,038	172,273	287,169	1,600	10,086	85,386
New York.....	780	86	8,430	47,383	6,107	12,093	29,782	92,103	151,485	240,683	1,201	7,120	63,227
New Jersey.....	70	27	2,715	14,797	2,016	4,196	9,520	21,517	17,436	39,699	( <sup>1</sup> )	2,630	19,642
Pennsylvania....	62	4	385	1,743	264	530	1,119	3,418	3,352	6,787	( <sup>1</sup> )	336	2,517
East North Central	107	17	1,941	11,041	1,371	2,885	7,266	23,408	16,144	39,181	( <sup>1</sup> )	1,757	16,742
Illinois.....	34	4	475	2,618	347	742	1,834	5,593	5,248	10,853	( <sup>1</sup> )	391	3,782
Michigan.....	18	6	356	2,181	197	397	1,075	4,727	4,075	8,420	( <sup>1</sup> )	277	2,618
West North Central	21	5	857	4,737	514	1,099	2,678	10,146	8,675	18,816	( <sup>1</sup> )	756	9,242
South.....	56	6	641	2,849	480	1,017	2,048	5,031	3,004	8,134	( <sup>1</sup> )	512	3,130
Mountain.....	21	5	463	1,655	361	718	1,147	2,541	2,806	5,316	( <sup>1</sup> )	453	1,978
Pacific.....	132	7	869	4,843	698	1,373	3,715	12,760	9,069	22,108	( <sup>1</sup> )	688	7,809
California.....	106	6	712	4,086	562	1,099	3,065	11,487	8,119	19,858	( <sup>1</sup> )	579	6,987

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final Census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3.—VALUE OF JEWELRY PRECIOUS METAL SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Jewelry, (Precious Metal) Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3911- --	Jewelry, precious metal, total.....	396,007	287,148
39111 --	Jewelry made of platinum metals and karat gold, total.....	282,158	195,234
	Rings and ring mountings		
	Rings (complete)		
39111 12	Wedding rings.....	37,489	28,380
39111 13	Other rings.....	102,896	56,788
39111 15	Rings mountings, for sale separately.....	20,949	21,752
39111 31	Women's and children's jewelry, such as necklaces, bracelets, brooches, pins, clips, earrings, lockets, etc. (Excluding watch attachments)....	55,963	39,839
39111 41	Watch attachments (bracelets for watches).....	10,291	6,020
39111 51	Organizational jewelry, including fraternal, college, and school jewelry and emblems, military insignias, (Excluding rings).....	14,764	9,082
39111 98	Other jewelry worn or carried about the person, such as men's jewelry (collar and cuff buttons, studs, watch chains, etc.); religious jewelry (rosaries, chaplets, crosses, etc.); cigar and cigarette cases and lighters, compacts, vanity cases, etc.....	19,587	12,475
39111 00	Jewelry made of platinum metals and karat gold, not specified by kind.....	20,219	20,898
39112 --	Jewelry made of precious metals, except platinum metals, and karat gold, total.....	93,710	74,265
	Jewelry made of gold filled, rolled gold plate, palladium filled, rolled palladium plate, and sterling silver:		
	Rings and ring mountings.....	6,920	5,604
39112 11	Men's jewelry, such as collar and cuff buttons, studs, watch chains, money clips, identification bracelets, scarf pins, tie and collar holders, etc. (Excluding watch attachments).....	7,118	7,037
39112 31	Women's and children's jewelry, such as necklaces, bracelets, brooches, pins, clips, earrings, lockets, etc. (Excluding watch attachments)....	23,171	21,723
39112 41	Watch attachments (bracelets for watches).....	27,620	24,844
39112 98	Other jewelry worn or carried about the person, such as fraternal, college and school jewelry and emblems, excluding rings; military insignia; religious jewelry (rosaries, chaplets, crosses, etc.); cigar and cigarette cases and lighters; compacts, vanity cases, etc...	21,077	9,855
39112 00	Jewelry made of precious metals, except platinum metals, and karat gold not specified by kind.....	7,804	5,202
39110 00	Jewelry (precious metal), not specified by kind.....	20,139	17,649

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OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES



MC63(P)-39A-2

INDUSTRY SERIES

preliminary  
report

## Jewelers' findings and materials

SIC Code 3912

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Jewelers' Findings and Materials Industry shipped products and had miscellaneous receipts valued at \$71 million, an increase of 24 percent over 1958, but 6 percent below the 1962 level, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 10 percent from 1958 but a decrease of 4 percent from 1962 to a total of 4.6 thousand employees in 1963. Value added by manufacture amounted to \$33

million in 1963, an increase of 22 percent from 1958 but a decrease of 16 percent from 1962.

The Jewelers' Findings and Materials Industry includes establishments engaged primarily in the manufacture of jewelers' findings, machine chain, and stock shop products, such as flat stock, wire, and tubing.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included in this report.

Table 1.—GENERAL STATISTICS FOR THE JEWELERS' FINDINGS AND MATERIALS INDUSTRY FOR SELECTED YEARS

(SIC code 3912)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	227	66	4,673	19,990	3,816	7,482	13,458	32,592	37,940	70,524	1,304
1962 <sup>2</sup> .....	(NA)	(NA)	4,854	21,485	3,909	7,702	13,948	38,798	37,631	74,834	(944)
1961 <sup>2</sup> .....	(NA)	(NA)	4,666	19,149	3,784	7,295	12,826	34,640	32,823	67,743	(894)
1960 <sup>2</sup> .....	(NA)	(NA)	4,497	18,519	3,626	7,027	12,318	37,724	31,715	65,843	(1,284)
1959 <sup>2</sup> .....	(NA)	(NA)	4,265	17,886	3,524	7,139	12,417	30,009	33,691	64,329	(1,247)
1958 <sup>2</sup> .....	248	55	4,227	16,380	3,496	6,776	11,479	26,787	29,947	56,755	637

(NA) Not available. <sup>2</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The standard errors associated with these estimates are published in the Annual Survey of Manufactures volumes for this period. The figures shown in parenthesis either have associated standard errors exceeding 15 percent or are not consistent with related data. Thus, these estimates may be of limited reliability.

December 1964.

U. S. DEPARTMENT OF COMMERCE, Luther H. Hodges, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director





ESTABLISHMENTS

The Census of Manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees is as follows: Figures on all employees represent the average number of production workers for the payroll period ended nearest the 15th of March, May, August, and November plus the number of all other employees for the payroll period ended nearest the 15th of March. Production workers are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

VALUE ADDED BY MANUFACTURE

Value added by manufacture represents adjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels from 1958 to 1963.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Jewelers' Findings and Materials Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Jewelers' Findings and Materials Industry amounted to \$71 million. Of this total, \$6 million were products primary to other industries; and \$5 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured

product shipments, primary and secondary. The 1958 ratio was 90 percent (revised).

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$70 million of Jewelers' Findings and Materials were shipped by all producers of these products. Of this total, \$60 million, or 85 percent, were shipped by plants classified in Industry 3912, Jewelers' Findings and Materials while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 87 (revised).

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 28th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

## 1963 CENSUS OF MANUFACTURES

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Table 2.—GENERAL STATISTICS FOR THE JEWELERS' FINDINGS AND MATERIALS INDUSTRY BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3912)

(SIC CODE 5512)

Division and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	227	66	4,673	19,990	3,816	7,482	13,458	32,592	37,940	70,524	1,304	4,227	26,787
New England.....	137	48	3,463	14,431	2,864	5,589	9,775	22,570	17,355	39,698	1,084	3,308	19,716
Middle Atlantic...	79	18	1,187	5,489	932	1,855	3,625	9,741	20,434	30,393	(2)	865	6,749
New York.....	55	9	588	2,510	475	961	1,680	4,288	13,743	18,218	(2)	335	3,052
North Central, South and West...	11	-	23	70	20	38	58	281	151	433	(2)	54	322

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final Census report on this industry.)

- Represents zero.

(2) Less than \$500 thousand.

Table 3.—VALUE OF JEWELERS' FINDINGS AND MATERIALS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Jewelers' Findings and Materials Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3912	Jewelers' findings and materials, total.....	70,413	<sup>r</sup> 56,771
3912011	Jewelers' findings, such as joints, pins, clasps, spring rings, ring blanks, and other unassembled parts.....	36,508	<sup>r</sup> 24,027
3912031	Machine chain.....	13,175	10,900
3912051	Stock shop products, such as flat stock, wire, and tubing.....	14,592	12,683
3912000	Jewelers' findings and materials, not specified by kind.....	6,138	9,161

<sup>r</sup>Revised.

USCOMM--DC

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-39A-3



## INDUSTRY SERIES

**preliminary  
report**

### Lapidary work

SIC Code 3913

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Lapidary Work Industry had total shipments valued at \$57 million, an increase of 41 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 14 percent from 1958 to a total of 1.6 thousand employees in 1963. Value added by manufacture amounted to \$15 million in 1963, an increase of 5 percent from 1958.

The Lapidary Work Industry includes establishments engaged primarily in all types of lapidary work and cutting and polishing diamonds.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE LAPIDARY WORK INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3913)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963.....	318	15	1,637	8,776	1,334	2,803	6,416	15,272	38,417	57,146	410
1958.....	326	18	1,904	8,061	1,629	2,935	6,154	14,605	24,853	40,428	253
1954 <sup>2</sup> .....	333	14	1,759	5,459	1,591	2,757	4,067	11,181	29,136	40,266	118
1947 <sup>2</sup> .....	270	(NA)	1,699	5,524	1,525	3,068	4,532	10,860	19,409	30,269	148
1939 <sup>2</sup> .....	90	(NA)	317	490	267	(NA)	391	1,374	3,755	5,129	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954, 1958, and 1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials for other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in the price levels from 1958 to 1963.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Lapidary Work Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Lapidary Work Industry amounted to \$57 million. Of this total, \$7 million were products primary to other industries; and \$5 million were receipts for miscellaneous activities. The industry shipments of primary products represented 86 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 99 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$59 million of lapidary work and cutting and polishing of diamonds were shipped by all producers of these products. Of this total, \$45 million, or 77 percent, were shipped by plants classified in Industry 3913, Lapidary Work and Cutting and Polishing of Diamonds while the remainder was shipped by plants classified in other industries. The 1958 ratio was 87 percent (revised).

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE LAPIDARY WORK INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3913)

Region and State	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	318	15	1,637	8,776	1,334	2,803	6,416	15,272	38,417	57,146	410	1,904	14,605
North Central.....	23	2	330	1,743	251	485	1,194	2,903	2,865	6,076	(D)	232	1,015
South and West...	26	0	75	317	65	121	283	456	426	1,138	(D)	83	1,184
New England.....	46	4	262	810	225	412	600	1,836	980	3,093	(1)	269	1,358
Middle Atlantic...	223	9	970	5,906	793	1,785	4,339	10,077	34,146	46,839	(1)	1,171	11,048
New York.....	209	7	854	5,249	695	1,582	3,849	9,225	32,985	44,723	(1)	975	9,951

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.

Table 3.—VALUE OF LAPIDARY WORK SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Lapidary Work Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3913 ---	Lapidary work and cutting and polishing diamonds, total.....	158,891	<sup>1</sup> 43,270
	Stones cut or polished from materials owned by the manufacturing establishment, excluding the setting of stones in jewelry:		
39130 11	Diamonds for jewelry purposes.....	36,894	<sup>r</sup> 20,840
39130 15	Diamonds for industrial purposes.....	3,701	4,858
39130 31	Other natural precious and semiprecious stones and synthetic stones, including the drilling of pearls.....	4,171	2,532
39130 00	Lapidary work and cutting and polishing diamonds, not specified by kind.....	114,125	115,040

<sup>r</sup>Revised

<sup>1</sup>Includes lapidary work done on materials owned by others for which type of stone was not reported.

CPO 885-889



**U.S. DEPARTMENT OF COMMERCE**  
**BUREAU OF THE CENSUS**  
**WASHINGTON, D.C. 20233**

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-39A-4



## INDUSTRY SERIES

**preliminary  
report**

### Silverware and plated ware

SIC Code 3914

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Silverware and Plated Ware Industry shipped products valued at \$234 million, an increase of 19 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 7 percent from 1958 to a total of 13 thousand employees in 1963. Value added by manufacture amounted to \$130 million in 1963, an increase of 18 percent from 1958.

The Silverware and Plated Ware Industry includes establishments engaged primarily in the manufacture of hollow ware, toilet ware, ecclesiastical ware, flatware and related products made of sterling silver; metal plated with silver, gold or other metal; of nickel silver; of pewter; or of stainless steel.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska

Table 1.--GENERAL STATISTICS FOR THE SILVERWARE AND PLATED WARE INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3914)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963.....	208	96	12,913	69,264	10,561	21,532	55,245	129,708	106,721	233,509	2,709
1958.....	209	87	13,852	62,318	11,226	21,851	47,602	109,728	85,185	196,055	2,478
1954 <sup>2</sup> .....	207	97	17,345	68,064	14,379	28,957	55,876	109,836	105,711	217,163	3,826
1947.....	236	(NA)	21,843	69,149	18,791	41,723	56,363	123,311	98,273	221,584	5,358
1939 <sup>2</sup> .....	153	(NA)	(NA)	(NA)	13,166	(NA)	16,574	39,628	26,415	66,043	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as

materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Silverware and Plated Ware Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Silverware and Plated Ware Industry amounted to \$234 million. Of this total, \$9 million were products primary to other industries; and \$18 million were receipts for miscellaneous activities. The industry shipments of primary products represented 96 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$212 million of silverware and plated ware were shipped by all producers of these products. Of this total, \$206 million, or 98 percent, were shipped by plants classified in Industry 3914, Silverware and Plated Ware, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 98.

### INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities



of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

#### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued.

Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.--GENERAL STATISTICS FOR THE SILVERWARE AND PLATED WARE INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958  
(SIC code 3914)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employ-ees, number	Value added by manufacture
	Total	With 20 or more employ-ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	208	86	12,913	69,264	10,581	21,532	53,245	219,708	106,721	233,509	2,709	13,852	109,728
New England.....	66	35	7,933	43,032	6,327	13,333	33,747	80,657	71,853	151,007	1,506	6,026	69,031
Connecticut.....	21	13	3,542	21,273	3,155	6,601	18,942	36,491	40,255	76,388	533	3,947	34,621
Middle Atlantic...	82	27	3,362	18,153	2,812	5,804	14,249	33,235	23,393	56,318	892	4,215	30,959
New York.....	50	18	2,745	15,004	2,296	4,777	11,914	27,362	19,126	46,253	665	3,363	24,724
New Jersey.....	22	5	485	2,417	404	810	1,777	4,468	3,141	7,534	(1)	727	5,118
North Central.....	24	11	862	4,317	661	1,240	2,724	9,987	7,043	16,155	(1)	885	6,767
Illinois.....	13	8	655	3,325	481	921	1,955	7,222	5,184	11,496	(1)	589	3,958
South Atlantic....	9	4	322	1,505	248	480	952	2,095	1,862	3,951	(D)	379	473
West.....	22	8	381	1,983	295	598	1,419	3,202	2,143	5,118	(1)	347	2,498
California.....	16	6	274	1,401	210	428	1,003	2,059	1,630	3,484	(D)	292	2,065

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.

Table 3A.--QUANTITY AND VALUE OF SILVERWARE AND PLATED WARE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Silverware and Plated Ware Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 pieces)	Value (\$1,000)	Quantity (1,000 pieces)	Value (\$1,000)
3914- --	Silverware and plated ware, total.....	(X)	211,826	(X)	178,765
39141 --	Silverware, plated ware, and stainless steel ware.....	(X)	90,021	(X)	74,288
	Hollow ware (including toilet ware, ecclesiastical ware, novelties, trophies, baby goods, and other plated ware):				
39141 11	Sterling silver.....	(X)	20,723	(X)	19,554
39141 31	Electrosilver plated.....	(X)	37,627	(X)	31,206
39141 51	Stainless steel.....	(X)	4,272	(X)	2,401
39141 61	Unplated hollow ware of other metals and hollow ware plated with metals other than silver.....	(X)	25,612	(X)	21,127
39141 00	Silverware, plated ware, and stainless steelware, not specified by kind.....	(X)	1,787	(X)	-
39142 --	Flatware (including all knives, forks, spoons, and carving sets made wholly of metal).....	(X)	117,058	(X)	97,075
39142 11	Sterling silver.....	9,718	38,485	11,737	37,356
	Electrosilver plated:				
39142 31	Hotel patterns.....	58,601	23,389	72,947	27,559
39142 35	Commercial patterns.....				
	Stainless steel:				
39142 53	Hotel patterns.....	48,352	9,378	146,132	31,189
39142 55	Commercial patterns.....	186,709	40,447		
39142 61	Imported flatware of other metals and flatware plated with metals other than silver.....	(X)	5,009	(X)	971
39142 00	Flatware, not specified by kind.....	(X)	350	(X)	-
39140 00	Silverware and plated ware, not specified by kind.....	(X)	4,747	(X)	7,402

- Represents zero.  
(X) Not applicable.

Table 3B.--INDEXES OF PRODUCTION AND UNIT VALUE FOR SILVERWARE AND PLATED WARE SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3914	Silverware and plated ware.....1963...	85	133
	.....1958...	77	123
39142	Flatware.....1963...	73	133
	.....1958...	65	123

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# 1963 CENSUS OF MANUFACTURES



MC63(P)-39B-1

INDUSTRY SERIES

preliminary  
report

## Musical instruments and parts

SIC Code 3931

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Musical Instruments and Parts Industry shipped products valued at \$314 million, an increase of 33 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 25 percent from 1958 but a decrease of 4 percent from 1962 to a total of 20 thousand employees in 1963. Value added by manufacture amounted to \$179 million in 1963, an increase of 48 percent from 1958 and 24 percent from 1962.

The Musical Instruments and Parts Industry includes establishments engaged primarily in the manufacture of pianos, with or without player attachments; organs; other musical instruments; and parts and materials for musical instruments.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE MUSICAL INSTRUMENTS AND PARTS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3931)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	319	126	20,089	103,013	16,598	33,590	76,462	178,994	143,094	314,350	5,764	(X)
1962 <sup>2</sup> .....	(NA)	(NA)	20,828	100,992	17,089	33,738	74,542	144,910	153,547	293,127	3,940	5
1961 <sup>2</sup> .....	(NA)	(NA)	19,403	91,370	15,698	30,575	66,210	133,136	144,843	276,963	3,706	4
1960 <sup>2</sup> .....	(NA)	(NA)	20,206	93,719	16,489	32,087	69,939	132,784	145,941	274,584	4,230	4
1959 <sup>2</sup> .....	(NA)	(NA)	18,631	83,250	15,382	30,541	66,525	154,908	150,765	297,044	(4,931)	1
1958.....	273	116	16,103	74,650	13,090	25,568	55,793	120,935	114,336	236,750	4,561	(X)
1954 <sup>3</sup> .....	242	111	15,406	61,218	13,229	26,327	48,240	94,213	79,502	173,385	1,922	(X)
1947 <sup>3</sup> .....	260	(NA)	16,889	46,808	14,814	31,269	38,198	71,356	48,179	118,689	2,445	(X)

(NA) Not available. (X) Not applicable. <sup>2</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Musical Instruments and Parts Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Musical Instruments and Parts Industry amounted to \$314 million. Of this total, \$8 million were products primary to other industries; and \$13 million were receipts for miscellaneous activities. The industry shipments of primary products represented 97 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 98 percent (revised).

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$319 million of musical instruments and parts were shipped by all producers of these products. Of this total, \$293 million, or 92 percent, were shipped by plants classified in Industry 3931, Musical Instruments and Parts while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 91 (revised).

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE MUSICAL INSTRUMENTS AND PARTS INDUSTRY, BY GEOGRAPHIC AREA: 1963 AND 1958<sup>1</sup>

(SIC code 3931)

Geographic area	1963											1958 <sup>2</sup>	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	319	126	20,089	103,013	16,598	33,590	76,462	178,994	143,094	314,350	5,764	16,103	120,935
New England.....	27	9	825	4,641	659	1,361	3,232	7,268	3,241	10,270	(1)	1,313	8,345
Massachusetts....	18	5	317	1,773	258	524	1,279	2,976	995	3,832	(D)	371	2,230
Middle Atlantic...	80	30	3,380	16,924	2,843	5,553	12,983	26,626	21,135	47,441	1,544	3,068	23,733
New York.....	50	18	2,227	11,801	1,828	3,565	8,847	17,728	14,975	32,599	(D)	2,081	14,920
New Jersey.....	17	5	330	1,455	269	529	1,090	2,320	2,969	5,239	(1)	210	3,433
Pennsylvania....	13	7	823	3,668	746	1,459	3,046	6,578	3,191	9,603	(D)	777	5,380
North Central....	127	62	10,457	59,272	8,338	17,280	42,727	108,630	77,493	181,200	3,078	9,593	75,746
Ohio.....	18	9	1,102	6,504	996	2,047	5,681	7,436	4,860	13,222	(1)	2,491	13,024
Indiana.....	31	17	2,199	13,667	1,722	3,528	9,852	22,252	18,946	40,585	(1)	1,553	13,442
Michigan.....	15	7	1,472	7,961	1,324	2,663	6,909	14,171	10,122	22,465	(1)	971	6,710
South.....	34	15	4,213	15,775	3,756	7,469	12,543	27,237	33,866	59,486	700	1,471	8,364
West.....	51	10	1,214	6,401	1,002	1,927	4,977	9,233	7,359	15,953	(1)	658	4,747
California.....	36	7	950	5,065	781	1,502	3,950	6,913	5,542	11,894	<sup>1</sup> 245	515	3,715

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was or relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>2</sup> Revised.

<sup>1</sup> Less than \$500 thousand.



Table 3A.—QUANTITY AND VALUE OF MUSICAL INSTRUMENTS AND PARTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Musical Instruments and Parts Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (Number of units)	Value (\$1,000)	Quantity (Number of units)	Value (\$1,000)
3931- --	Musical instruments and parts, total.....	(X)	319,263	(X)	<sup>r</sup> 242,144
39311 --	Pianos, total.....	(X)	87,705	(X)	<sup>r</sup> 63,674
39311 11	Verticals, uprights, or consoles, 37 inches or less in height.....	115,489	38,605	<sup>r</sup> 83,940	<sup>r</sup> 29,915
39311 15	Verticals, uprights, or consoles, over 37 inches in height.....	92,819	40,296	<sup>r</sup> 71,769	<sup>r</sup> 28,963
39311 51	Grand pianos.....	5,487	8,804	3,210	4,796
39312 --	Organs, total.....	(X)	107,292	(X)	79,375
39312 11	Pipe and reed.....	(NA)	13,683	(NA)	14,125
39312 51	Electronic.....	141,874	93,609	88,559	65,250
39313 --	Piano and organ parts, total.....	(X)	42,284	(X)	51,145
39313 11	Piano parts and materials (actions, attachments, strings, tuning pins, etc.), except benches.....	(X)	33,594	(X)	23,244
39313 51	Organ parts and materials, except benches.....	(X)	8,690	(X)	27,901
39314 --	Other musical instruments and parts, total.....	(X)	77,695	(X)	47,950
39314 13	Wind instruments, except organs and accordians:				
39314 15	Wood winds.....	177,735	13,033	261,485	19,812
	Brass winds.....	198,058	17,386		
39314 21	Fretted and string instruments (nonelectronic), except pianos and harps (such as guitars, violins, etc.).....	(NA)	11,685	(X)	( <sup>1</sup> )
39314 31	Accessories and parts, sold separately, such as reed mouthpieces, music stands, drummers traps, etc., except instrument cases and benches.....	(X)	10,516	(X)	6,282
39314 51	Electronic musical instruments, other than electronic organs.....	(X)	9,689	(X)	<sup>1</sup> 18,756
39314 98	Other nonelectronic musical instruments, including harps, accordians, and percussion instruments, such as drums, vives, etc.....	(NA)	11,195		
39314 00	Other musical instruments and parts, not specified by kind.....	(X)	4,191	(X)	3,100
39310 00	Musical instruments and parts, not specified by kind.....	(X)	4,287		

(NA) Not available. (X) Not applicable. <sup>r</sup>Revised.

<sup>1</sup>1958 data for fretted and string instruments are included with data for "Other musical instruments," code 3931498.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR MUSICAL INSTRUMENTS AND PARTS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3931-	Musical instruments and parts.....1963...	191	99
	.....1958...	141	102
39311	Pianos.....1963...	135	116
	.....1958...	97	115
39312	Organs.....1963...	389	73
	.....1958...	244	81
39314	Other musical instruments and parts.....1963...	210	105
	.....1958...	132	98

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-39B-2



INDUSTRY SERIES

preliminary  
report

## Games and toys

SIC Code 3941

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Games and Toys Industry shipped products valued at \$753 million an increase of 38 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 15 percent from 1958 and 3 percent from 1962 to a total of 49 thousand employees in 1963. Value added by manufacture amounted to \$415 million in 1963, an increase of 44 percent from 1958 and 2 percent from 1962.

The Games and Toys Industry includes establishments engaged primarily in the manufacture of mechanical toys, model construction sets, metal, plastic, and wooden toys and complete games such as chess and checkers.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE GAMES AND TOYS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3941)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	786	342	49,360	198,151	41,860	80,613	139,213	415,111	348,083	752,861	24,746	(X)
1962.....	(NA)	(NA)	47,956	185,629	39,279	77,689	129,260	406,076	325,630	715,015	18,082	5
1961 <sup>2</sup> .....	(NA)	(NA)	50,395	183,266	41,370	78,156	126,003	411,339	336,063	736,507	14,863	4
1960 <sup>2</sup> .....	(NA)	(NA)	45,697	164,022	37,569	72,385	113,204	342,536	302,002	635,322	14,675	3
1959 <sup>2</sup> .....	(NA)	(NA)	45,358	159,171	37,049	69,753	110,848	308,411	284,256	595,306	(18,047)	2
1958.....	854	367	42,972	149,725	35,999	68,007	106,577	288,863	258,215	544,056	16,513	(X)
1954 <sup>3</sup> .....	886	308	38,242	113,208	32,789	60,813	83,227	206,706	180,870	391,323	8,358	(X)
1947 <sup>3</sup> .....	837	(NA)	27,140	60,554	24,174	47,093	47,403	105,414	76,525	181,939	(NA)	(X)
1939 <sup>3</sup> .....	294	(NA)	(NA)	(NA)	13,778	(NA)	11,098	27,364	21,744	49,108	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1959 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parenthesis have standard errors exceeding 15 percent. See the Annual Survey of Manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Games and Toys Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Games and Toys Industry amounted to \$753 million. Of this total, \$52 million were products primary to other industries; and \$39 million were receipts for miscellaneous activities. The industry shipments of primary products represented 93 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was also 93 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$752 million of games and toys were shipped by all producers of these products. Of this total, \$661 million, or 88 percent, were shipped by plants classified in Industry 3941, Games and Toys while the remainder was shipped by plants classified in other industries. The 1958 ratio was 92 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

3

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE GAMES AND TOYS INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3941)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	786	342	49,360	198,151	41,860	80,613	139,213	415,111	348,083	752,861	24,746	42,972	288,863
New England.....	81	35	6,397	25,935	5,128	9,573	16,792	55,084	32,091	84,972	2,718	5,998	40,780
New Hampshire....	10	4	784	2,572	679	1,372	2,240	5,171	2,299	7,253	529	997	5,640
Massachusetts.....	37	20	2,487	10,502	1,992	3,788	6,354	25,364	16,046	41,685	653	2,410	17,404
Connecticut.....	19	6	1,389	6,793	1,002	1,883	3,816	11,315	5,990	15,026	1,040	1,417	9,981
Middle Atlantic...	337	165	23,860	93,311	20,460	39,685	66,533	191,160	174,485	361,840	11,925	19,595	126,873
New York.....	217	93	11,458	45,183	9,634	19,354	30,529	104,993	87,323	191,162	6,443	10,526	70,466
New Jersey.....	71	42	6,890	27,005	5,974	11,500	19,763	49,455	43,529	91,100	3,457	4,546	30,472
Pennsylvania.....	49	30	5,512	21,123	4,860	8,831	16,241	36,712	43,633	79,578	2,025	4,523	25,935
East North Central	155	79	9,931	41,881	8,493	16,244	29,982	92,650	83,519	175,162	4,916	9,185	61,586
West North Central	34	14	1,651	7,141	1,419	2,649	5,096	16,428	11,259	26,836	2,112	1,600	10,185
Minnesota.....	11	5	1,031	4,507	930	1,724	3,211	10,216	7,233	16,686	1,721	893	5,291
Missouri.....	15	7	515	2,149	398	751	1,528	3,793	3,521	7,299	(1)	586	3,898
South Atlantic....	27	10	1,403	5,050	1,258	2,453	4,209	8,816	8,894	17,414	(1)	1,464	9,053
East South Central	14	8	828	2,645	728	1,338	1,797	6,171	5,589	11,753	1,454	806	4,382
Tennessee.....	7	5	502	1,538	433	742	999	3,987	3,207	7,230	(D)	496	3,152
West South Central	26	7	1,955	7,359	1,694	3,439	5,382	15,356	11,259	25,365	(1)	1,377	10,067
West.....	112	24	3,335	14,829	2,672	5,232	9,422	29,446	20,987	49,519	1,847	2,947	25,937
California.....	92	21	3,034	13,930	2,400	4,765	8,705	27,290	19,273	45,638	1,719	2,757	24,968

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3.—VALUE OF GAMES AND TOYS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Games and Toys Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3941- --	Games and toys, except dolls and children's vehicles, total.....	752,351	522,031
39410 11	Doll carriages and doll carts.....	18,619	18,063
39410 23	Toy trains and equipment (mechanical and electric) made to scale at the ratio of larger than 1 to 85 (S, O gages, etc.).....	12,713	25,926
39410 25	Other trains and equipment (HO gage, etc.).....	4,354	
39410 31	Mechanical toys, except trains (propelled by springs or electricity, gear driven) including miniature engines for toy aircraft or toy boats.....	62,551	33,754
39410 41	Structural toy sets.....	6,731	6,197
39410 51	Model construction sets (airplanes, ships, trains, etc.).....	42,392	18,809
39410 61	Metal toys, other than those listed above.....	82,264	72,448
39410 71	Wooden toys, other than those listed above.....	45,661	38,582
	Plastic toys, other than those listed above:		
39410 83	Molded, extruded or vacuum formed.....	193,231	114,537
39410 85	Vinyl heat sealed.....	14,864	
39410 95	Other toys, not listed above.....	122,033	124,883
39410 97	Games, complete (include chess, checkers, etc.).....	100,538	
39410 91	Parts for toys and games.....	9,660	5,252
39410 00	Games and toys, except dolls and children's vehicles, not specified by kind.....	46,740	73,580

<sup>1</sup>2,355 thousand units were shipped in 1963 and 2,397 thousand in 1958.

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WASHINGTON, D.C. 20233

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-39B-3



INDUSTRY SERIES

preliminary  
report

Dolls

SIC Code 3942

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Dolls Industry shipped products valued at \$251 million, an increase of 55 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 19 percent from 1958 to a total of 16 thousand employees in 1963. Value added by manufacture amounted to \$139 million in 1963, an increase of 81 percent from 1958.

The Dolls Industry includes establishments engaged primarily in the manufacture of dolls, doll parts and doll clothing. Establishments primarily engaged in manufacturing stuffed toy animals are also included in this industry.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE DOLLS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3942)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees <sup>2</sup>	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	410	161	16,439	59,762	14,183	27,737	42,376	139,441	116,379	251,257	6,272
1958.....	485	162	13,860	43,984	12,196	22,709	33,877	77,149	85,094	161,924	5,469
1954 <sup>3</sup> .....	484	165	15,119	38,938	13,792	24,618	30,657	66,351	78,489	145,210	2,247
1947 <sup>3</sup> .....	377	(NA)	9,797	21,847	8,886	17,386	17,739	37,577	32,209	69,786	(NA)
1939 <sup>3</sup> .....	136	(NA)	(NA)	(NA)	4,890	(NA)	4,405	8,874	9,608	18,482	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Dolls Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Dolls Industry amounted to \$251 million. Of this total, \$29 million were products primary to other industries; and \$54 million were receipts for miscellaneous activities. The industry shipments of primary products represented 85 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 98 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$194 million of dolls and stuffed toy animals were shipped by all producers of these products. Of this total, \$168 million, or 87 percent, were shipped by plants classified in Industry 3942, Dolls, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 94.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3A) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports



will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE DOLLS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3942)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	410	161	16,439	59,762	14,183	24,737	42,376	139,441	116,379	251,257	6,272	13,860	77,149
New England.....	27	13	1,233	3,210	1,133	1,802	2,544	5,654	3,468	9,042	( <sup>1</sup> )	1,019	5,149
Middle Atlantic...	310	122	9,589	32,856	8,611	15,108	25,770	64,934	60,576	125,320	3,224	11,708	66,435
New York.....	285	109	8,343	27,768	7,539	12,831	21,884	57,592	54,702	112,025	(D)	9,614	54,321
New Jersey.....	12	6	658	3,173	525	1,300	2,190	4,133	3,742	8,010	(D)	1,571	9,252
Pennsylvania....	13	7	588	1,915	547	977	1,696	3,209	2,132	5,285	( <sup>1</sup> )	523	2,862
North Central.....	20	8	757	2,032	643	1,126	1,651	3,084	2,775	5,924	( <sup>1</sup> )	299	1,358
South and West....	53	18	4,860	21,664	3,796	6,701	12,411	65,769	49,560	110,971	2,531	834	4,207
Georgia.....	6	5	437	1,474	391	728	1,112	2,209	1,825	4,052	( <sup>1</sup> )	380	2,243

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies; in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing operation of individual companies.

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF DOLLS AND STUFFED TOY ANIMALS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Dolls Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3942- --	Dolls and stuffed toy animals, total.....	(X)	193,724	(X)	161,893
	Dolls:				
	Dolls, complete, made of rubber, plastic or similar materials (except stuffed dolls):				
39420 06	Regular size, 12-1/2" and over.....	25,686	63,316	132,166	162,139
39420 07	Miniature, 12" and under.....	13,445	19,210		
39420 08	Stuffed dolls.....	6,450	13,882		
39420 16	Doll parts.....	(X)	15,165	(X)	33,094
39420 18	Doll clothes and accessories.....	(X)	13,895		
39420 53	Stuffed toy animals.....	30,688	41,920	21,923	239,556
39420 55	Other stuffed toys, including puppets.....	(X)	4,319		
39420 00	Dolls, and stuffed toy animals, not specified by kind.....	(X)	22,017	(X)	27,104

(X) Not applicable.

<sup>r</sup>Revised.<sup>1</sup>The quantity figure relates to a value of \$53,874 thousand. In addition \$8,265 thousand were reported without quantity.<sup>2</sup>The quantity figure relates to a value of \$33,650 thousand. In addition \$5,906 thousand were reported without quantity.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR DOLLS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

Product code	Product and year	Indexes (1954 = 100)	
		Production	Unit value
3942-	Dolls.....1963...	87	169
	.....1958...	93	132

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-39B-4



INDUSTRY SERIES

preliminary  
report

## Children's vehicles

SIC Code 3943

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Children's Vehicles Industry had total shipments valued at \$77 million, an increase of 10 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 4 percent from 1958 to a total of 4.5 thousand employees in 1963. Value added by manufacture amounted to \$35 million in 1963, an increase of 11 percent from 1958.

The Children's Vehicles Industry includes establishments engaged primarily in the manufacture of baby carriages, strollers and go-carts; children's velocipedes and tricycles, coaster wagons, play cars, sleds, and other children's outdoor wheel goods and vehicles, except bicycles.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE CHILDREN'S VEHICLES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3943)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	57	31	4,538	19,421	3,788	7,589	14,208	35,301	41,574	77,470	1,854
1958.....	58	33	4,708	19,625	3,946	7,712	14,932	31,727	38,461	70,438	831
1954 <sup>3</sup> .....	60	37	6,278	24,308	5,454	10,553	19,354	35,461	40,629	77,213	1,325
1947 <sup>3</sup> .....	120	(NA)	8,783	24,735	7,773	15,972	19,423	44,204	41,627	85,831	(NA)
1939 <sup>3</sup> .....	44	(NA)	4,952	6,172	4,319	(NA)	4,713	9,177	9,940	19,117	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Children's Vehicle Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Children's Vehicles Industry amounted to \$77 million. Of this total, \$22 million were products primary to other industries; and \$1 million were receipts for miscellaneous activities. The industry shipments of primary products represented 71 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 84 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$83 million of Children's Vehicles were shipped by all producers of these products. Of this total, \$55 million, or 66 percent, were shipped by plants classified in Industry 3943, Children's Vehicles while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 78.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

## 1963 CENSUS OF MANUFACTURES

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The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13

of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE CHILDREN'S VEHICLES INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3943)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)	All employ- ees, number	Value added by manufac- ture (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	57	31	4,538	19,421	3,788	7,589	14,208	35,301	41,574	77,470	1,854	4,708	31,727
New England.....	7	3	417	1,811	317	601	1,242	2,673	3,571	6,219	( <sup>1</sup> )	853	4,230
Middle Atlantic...	20	12	1,225	4,008	1,099	2,166	3,090	6,934	5,881	12,867	( <sup>1</sup> )	741	4,040
North Central.....	19	11	2,311	10,989	1,921	3,918	8,241	20,448	25,609	46,396	915	2,539	18,771
South and West....	11	5	585	2,613	451	904	1,635	5,246	6,513	11,988	( <sup>1</sup> )	575	4,686

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF CHILDREN'S VEHICLES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Children's Vehicles Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3943- --	Children's vehicles, except bicycles, total.....	(X)	82,865	(X)	72,914
39430 11	Baby carriages, including combination carriage-strollers.....	329	7,358	280	7,657
39430 15	Strollers.....	1,023	12,553	1,087	11,589
39430 21	Baby walkers.....	612	4,355	559	3,483
39430 33	Children's pedal driven automobiles and tractors.....	1,055	9,803	( <sup>1</sup> )	( <sup>1</sup> )
39430 43	Velocipedes (3 wheeled) and tricycles; including chain driven tricycles.....	3,113	20,754	2,423	18,171
39430 61	Children's wagons (coaster, express, and other).....	2,562	8,575	2,204	7,675
39430 71	Sleds.....	1,271	5,337	921	3,327
39430 81	Parts for children's vehicles, sold separately.....	(X)	2,237	(X)	1,908
39430 98	Other children's vehicles, including scooters, side-walk cycles, three-wheel play cars, etc.....	(X)	9,940	(X)	17,954
39430 00	Children's vehicles, except bicycles, not specified by kind.....	(X)	1,953	(X)	1,150

(X) Not applicable. <sup>†</sup>Revised.

<sup>1</sup>In 1958, data for children's pedal driven automobiles and tractors (product code 39430 33) were included with other children's vehicles (product code 39430 98).

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF COMMERCE

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OFFICIAL BUSINESS

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-39B-5



## INDUSTRY SERIES

## preliminary report

### Sporting and athletic goods

SIC Code 3949

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Sporting and Athletic Goods Industry had value of shipments of \$696 million, an increase of 20 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 8 percent from 1958 to a total of 40 thousand employees in 1963. Value added by manufacture amounted to \$358 million in 1963, an increase of 14 percent from 1958.

The Sporting and Athletic Goods Industry includes establishments engaged primarily in the

manufacture of sporting and athletic goods not elsewhere classified, such as fishing tackle; golf and tennis goods; baseball, football, basketball, and boxing equipment; roller skates and ice skates; gymnasium and playground equipment; billiard and pool tables; and bowling alleys and equipment.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE SPORTING AND ATHLETIC GOODS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3949)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	1,414	342	40,058	173,969	32,119	61,995	122,057	358,196	340,502	695,965	15,121
1958.....	1,210	302	37,164	148,477	29,735	57,370	104,342	314,059	269,509	577,815	15,106
1954 <sup>3</sup> .....	1,031	254	28,919	89,681	24,439	46,101	66,087	159,852	146,961	308,824	5,662
1947 <sup>3</sup> .....	863	228	29,756	66,675	26,381	51,990	53,768	107,449	94,854	202,303	7,351
1939 <sup>3</sup> .....	350	(NA)	16,633	19,813	13,816	(NA)	14,221	38,064	26,690	64,754	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available for 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Sporting and Athletic Goods Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Sporting and Athletic Goods Industry amounted to \$696 million. Of this total, \$45 million were products primary to other industries; and \$58 million were receipts for miscellaneous activities. The industry shipments of primary products represented 93 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 88 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$651 million of Sporting and Athletic Goods were shipped by all producers of these products. Of this total, \$593 million, or 91 percent, were shipped by plants classified in Industry 3949, Sporting and Athletic Goods while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 91.

INDEXES OF PRODUCTION AND UNIT VALUE

Based on the type of quantity and value statistics shown in table 3A, indexes of production and unit value (value of shipments divided by quantity of shipments) have been constructed for the primary products of the industry produced or shipped by all producers, including those in other industries and are shown in table 3B. Unit values were computed for each product for which quantity figures were available. The 1958 unit values were used as weights in construction of a weighted aggregative production index. A comparable weighted aggregative unit value index, weighted by quantity of production or shipments, was also constructed. The latter index was used, where necessary, to deflate total value of shipments of primary products for which no quantity data were available.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1



## 1963 CENSUS OF MANUFACTURES

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and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. A series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE SPORTING AND ATHLETIC GOODS INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3949)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufacture	Cost of materials	Value of shipments	Capital expenditures, new	All employees, number	Value added by manufacture
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	1,414	342	40,058	173,969	32,119	61,995	122,057	358,196	340,502	695,965	15,121	37,164	314,059
New England.....	100	35	5,364	23,159	4,198	7,987	16,794	49,645	37,753	82,389	1,443	4,937	28,311
Maine.....	12	4	404	1,289	336	663	981	2,250	1,829	3,969	(D)	643	2,816
Massachusetts...	44	17	3,755	16,560	2,843	5,344	11,609	38,055	26,984	60,498	1,027	3,037	18,878
Connecticut.....	27	9	828	3,765	709	1,371	3,085	6,257	5,798	11,622	(1)	880	4,428
Middle Atlantic...	246	68	6,214	25,476	5,294	10,368	18,713	43,088	57,193	100,376	2,189	8,636	86,328
East North Central	349	98	12,437	60,812	9,457	18,416	40,208	135,453	129,116	268,408	4,715	11,592	116,412
Ohio.....	60	17	3,685	18,562	2,782	5,338	12,768	25,613	30,623	57,319	1,345	4,024	28,683
Indiana.....	30	7	586	2,317	471	862	1,544	4,043	4,081	8,247	(1)	388	2,766
Illinois.....	97	30	3,180	15,874	2,411	4,709	10,818	29,541	46,241	76,304	1,493	2,463	36,839
Michigan.....	102	28	3,623	19,207	2,632	5,300	11,754	66,911	39,119	108,173	1,421	3,685	43,006
Wisconsin.....	60	16	1,363	4,852	1,161	2,207	3,324	9,345	9,052	18,365	(1)	1,032	5,118
West North Central	137	39	3,510	13,377	2,889	5,566	10,040	25,043	28,956	54,184	838	3,075	18,704
Minnesota.....	48	14	934	3,902	809	1,680	3,111	8,318	8,863	17,187	(1)	582	4,764
Iowa.....	25	11	1,132	4,580	871	1,706	3,091	8,761	7,580	16,678	(1)	636	3,787
Missouri.....	36	9	1,233	4,081	1,035	1,850	3,224	6,598	11,271	17,716	(D)	1,727	9,320
South Atlantic.....	111	22	3,723	15,534	2,980	5,819	10,412	35,032	22,206	57,165	1,478	2,637	21,602
South Carolina..	8	5	972	3,757	816	1,651	2,659	8,337	4,506	12,261	(1)	368	2,158
Florida.....	61	8	678	1,960	606	1,128	1,601	3,558	3,356	6,961	(D)	430	2,316
East South Central	57	14	1,793	7,000	1,573	2,797	5,596	11,509	13,052	24,579	(1)	1,538	10,576
Tennessee.....	25	9	1,047	3,204	956	1,595	2,943	5,500	6,876	12,309	(1)	798	4,041
West South Central	109	19	2,504	8,670	2,105	4,009	6,396	20,072	18,469	37,486	633	1,501	7,887
Texas.....	65	12	872	3,103	706	1,272	2,049	6,514	5,533	11,997	(1)	360	2,716
Mountain.....	41	7	835	2,881	713	1,464	2,239	3,635	3,884	7,279	(1)	914	4,587
Colorado.....	18	5	567	2,033	479	1,031	1,587	2,251	2,801	4,794	(D)	630	3,293
Pacific.....	264	40	3,678	17,060	2,910	5,569	11,659	34,719	29,873	64,099	3,253	2,334	19,652
Washington.....	38	4	296	1,073	253	458	848	2,219	1,622	3,916	(D)	246	1,874
California.....	197	32	3,075	14,765	2,399	4,654	9,384	30,884	26,228	56,495	(D)	1,925	16,570

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures of individual companies.

<sup>1</sup>Less than \$500 thousand.





# 1963 CENSUS OF MANUFACTURES

MC63(P)-39C-1



INDUSTRY SERIES

preliminary  
report

## Pens and mechanical pencils

SIC Code 3951

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Pens and Mechanical Pencils Industry had total shipments valued at \$185 million, an increase of 23 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 3 percent from 1958 to a total of 12 thousand employees in 1963. Value added by manufacture amounted to \$118 million in 1963, an increase of 31 percent from 1958.

The Pens and Mechanical Pencils Industry includes establishments engaged primarily in the manufacture of pens, pen points, fountain pens, ball point pens, refill cartridges, as well as parts for pens and mechanical pencils.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE PENS AND MECHANICAL PENCILS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3951)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	139	67	11,562	53,808	9,062	17,937	33,925	118,027	66,615	185,464	4,066
1958.....	147	66	11,179	45,856	8,519	16,234	27,869	90,197	58,012	150,279	3,829
1954 <sup>3</sup> .....	140	61	10,879	44,123	8,089	16,428	25,191	84,121	45,855	129,975	3,054
1947 <sup>3</sup> .....	184	80	15,553	40,606	12,527	24,705	28,207	89,897	57,471	147,368	3,865
1939 <sup>3</sup> .....	70	(NA)	6,323	7,860	4,463	(NA)	4,329	16,181	8,700	24,881	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Pens and Mechanical Pencils Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Pens and Mechanical Pencils Industry amounted to \$185 million. Of this total, \$25 million were products primary to other industries; and \$3 million were receipts for miscellaneous activities. The industry shipments of primary products represented 86 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 93 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$172 million of pens and mechanical pencils were shipped by all producers of these products. Of this total, \$157 million, or 91 percent, were shipped by plants classified in Industry 3951, Pens and Mechanical Pencils, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 93.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE PENS AND MECHANICAL PENCILS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3951)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
								(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	139	67	11,562	53,808	9,062	17,937	33,925	118,027	66,615	185,464	4,066	11,179	90,197
New England.....	7	5	669	3,154	534	1,059	1,956	15,477	3,327	18,798	( <sup>1</sup> )	644	3,270
Middle Atlantic...	86	37	3,922	13,493	3,275	6,420	10,583	24,681	28,596	54,574	1,388	3,948	23,455
New York.....	66	27	2,294	7,374	2,065	3,878	5,657	12,819	18,237	31,070	698	2,282	10,891
East North Central	11	6	1,945	12,861	1,230	2,361	6,477	27,475	10,585	38,705	930	2,102	20,781
West North Central	9	5	2,213	11,069	1,671	3,306	6,448	20,911	6,853	27,775	( <sup>1</sup> )	1,721	16,657
South.....	9	6	1,647	7,099	1,376	2,809	4,411	15,917	7,029	22,525	( <sup>1</sup> )	1,730	13,888
West.....	17	8	1,166	6,132	976	1,982	4,050	13,566	10,225	23,087	967	1,034	12,146

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF PENS AND MECHANICAL PENCILS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Pens and Mechanical Pencils Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963		1958	
		Total shipments including interplant transfers		Total shipments including interplant transfers	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3951- --	Pens, pen points, fountain pens, ball-point pens, mechanical pencils and parts.....	(X)	171,609	(X)	147,232
	Pens:				
	Fountain pens, complete (all types, except ball point): <sup>1</sup>				
39510 01	\$1.00 each and under (retail price).....	27,730	4,992	13,377	3,878
39510 05	\$1.01 to \$5.00 each (retail price).....	6,547	8,257	13,812	28,995
39510 06	Over \$5.00 each (retail price).....	2,461	9,478		
	Ball-point type pens, complete: <sup>1</sup>				
39510 13	\$ .25 each and under (retail price).....	505,728	30,622	297,998	31,478
39510 14	\$ .26 to \$ .50 each (retail price).....	171,245	24,645	43,223	24,258
39510 18	Over \$ .50 each (retail price).....	63,272	26,168		
39510 19	Desk pen sets, including fountain-pen type, ball-point type, and ink-well reservoir (dip) type.....	4,990	2,847	2,756	4,603
	Mechanical pencils: <sup>1</sup>				
39510 53	\$ .50 each and under (retail price).....	35,796	5,461	38,823	5,813
39510 55	Over \$ .50 each (retail price).....	18,171	9,168	18,435	9,301
39510 63	Miscellaneous pen and mechanical pencil parts, for sale separately, such as pen holders, pen points (all types), renewal parts, etc.....	(X)	24,536	(X)	16,321
39510 71	Refill ink cartridges for ball point pens.....	(X)	20,485	(X)	15,551
39510 00	Pens, pen points, fountain pens, ball-point pens, mechanical pencils and parts, not specified by kind.....	(X)	4,950	(X)	7,034

(X) Not applicable. <sup>1</sup> Revised.

<sup>2</sup>Manufacturers of fountain pens, ball-point pens, and mechanical pencils classified their shipments by categories based on retail selling price, whereas the reported values represent the net selling values, f.o.b. plant. Net selling values exclude discounts, allowances, freight charges and excise taxes.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-39C-2



INDUSTRY SERIES

preliminary  
report

## Carbon paper and inked ribbons

SIC Code 3955

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Carbon Paper and Inked Ribbons Industry shipped products valued at \$156 million, an increase of 23 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 5 percent from 1958 to a total of 5.5 thousand employees in 1963. Value added by manufacture amounted to \$68 million in 1963, an increase of 16 percent from 1958.

The Carbon Paper and Inked Ribbons Industry includes establishments engaged primarily in the manufacture of carbon paper for business machines, sales books, etc.; spirit or gelatin process and other stencil paper; and inked ribbons for business machines.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE CARBON PAPER AND INKED RIBBONS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3955)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	102	52	5,539	31,480	3,819	7,671	17,623	68,315	86,954	155,513	2,275
1958.....	103	61	5,818	27,614	3,922	7,854	15,098	58,951	68,017	126,013	2,654
1954 <sup>3</sup> .....	84	43	4,742	19,344	3,255	6,671	10,757	39,749	46,137	85,666	1,120
1947 <sup>3</sup> .....	67	34	3,681	10,622	2,558	5,677	6,264	23,615	25,021	48,636	940
1939 <sup>3</sup> .....	58	(NA)	3,014	4,970	1,741	(NA)	2,132	10,620	10,157	20,777	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

March 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all-employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Carbon Paper and Inked Ribbons Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Carbon Paper and Inked Ribbons Industry amounted to \$156 million. Of this total, \$7 million were products primary to other industries; and \$16 million were receipts for miscellaneous activities. The industry shipments of primary products represented 95 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 91 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$161 million of carbon paper and inked ribbons were shipped by all producers of these products. Of this total, \$133 million, or 83 percent, were shipped by plants classified in Industry 3955, Carbon Paper and Inked Ribbons while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 89.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in

## 1963 CENSUS OF MANUFACTURES

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1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted

every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE CARBON PAPER AND INKED RIBBONS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3955)

Geographic area	1965										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	102	52	5,539	31,480	3,819	7,671	17,623	68,315	86,954	155,513	2,275	5,818	58,951
New England.....	8	7	526	2,526	421	825	1,806	9,859	9,179	18,637	(1)	730	7,711
Middle Atlantic....	43	23	2,763	15,169	1,864	3,836	8,369	30,898	39,531	70,903	1,012	2,894	27,554
New York.....	25	14	1,862	10,605	1,246	2,555	5,478	22,659	28,474	51,124	830	1,991	20,891
North Central.....	23	12	1,501	8,903	1,066	2,018	5,071	19,024	24,919	43,878	641	1,325	15,947
Illinois.....	11	8	580	3,041	430	889	1,899	7,135	10,059	17,025	(1)	533	7,428
South and West....	28	10	749	4,882	468	992	2,377	8,534	13,325	22,095	(1)	869	7,739

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

Table 3.—QUANTITY AND VALUE OF CARBON PAPER AND INKED RIBBONS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Carbon Paper and Inked Ribbons Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963		1958	
		Total shipments including interplant transfers		Total shipments including interplant transfers	
		Quantity (1,000 dozens)	Value (\$1,000)	Quantity (1,000 dozens)	Value (\$1,000)
3955- --	Carbon paper and inked ribbons, total.....	(X)	160,829	(X)	119,112
	Inked ribbons:				
39550 11	Typewriter (all types).....	3,481	23,952	3,040	19,108
39550 19	Other inked ribbons (all types).....	1,448	16,973	1,656	11,020
	Coated carbon paper (in roll and sheet):				
39550 31	One time.....	(X)	36,314	(X)	22,801
39550 35	Other than one time.....	(X)	36,444	(X)	29,013
	Stencil paper:				
39550 61	Spirit and gelatin process master copies (include master sets).....	(X)	19,040	(X)	18,180
39550 98	All other, including mimeograph stencil paper.....	(X)	25,363	(X)	14,201
39550 00	Carbon paper and inked ribbons, not specified by kind.....	(X)	2,743	(X)	4,789

(X) Not applicable.

**U.S. DEPARTMENT OF COMMERCE**

**BUREAU OF THE CENSUS**

**WASHINGTON, D.C. 20233**

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-39C-3



INDUSTRY SERIES

preliminary  
report

Costume jewelry

SIC Code 3961

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Costume Jewelry Industry had total shipments valued at \$279 million, an increase of 10 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 15 percent from 1958 to a total of 22 thousand employees in 1963. Value added by manufacture amounted to \$150 million in 1963, an increase of 9 percent from 1958.

The Costume Jewelry Industry includes establishments engaged primarily in the manufacture of costume jewelry, costume novelties, and ornaments made of all materials, except precious metal, precious or semiprecious stones, and rolled gold plate and gold filled materials.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE COSTUME JEWELRY INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3961)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963.....	910	203	21,557	84,926	18,162	34,315	60,009	150,142	131,694	279,106	3,787
1958.....	1,051	255	25,286	83,201	21,297	39,994	58,347	138,043	116,037	253,809	5,788
1954 <sup>2</sup> .....	1,127	288	27,744	79,017	24,269	46,679	58,445	131,791	117,625	249,560	3,621
1947 <sup>2</sup> .....	859	212	25,371	59,487	22,266	46,532	45,979	107,224	63,070	170,294	3,146
1939 <sup>2</sup> .....	299	(NA)	(NA)	(NA)	12,228	(NA)	10,118	23,439	15,322	38,761	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>Data for Alaska and Hawaii are not included.

February 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS, Richard M. Scammon, Director



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Costume Jewelry Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Costume Jewelry Industry amounted to \$279 million. Of this total, \$19 million were products primary to other industries; and \$24 million were receipts for miscellaneous activities. The industry shipments of primary products represented 93 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$252 million of costume jewelry were shipped by all producers of these products. Of this total, \$237 million, or 94 percent, were shipped by plants classified in Industry 3961, Costume Jewelry while the remainder was shipped by plants classified in other industries. The 1958 ratio was 96 percent.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE COSTUME JEWELRY INDUSTRY, BY REGIONS AND STATES: 1963 AND 1958

(SIC code 3961)

Region and State	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	910	203	21,557	84,926	18,162	34,315	60,009	150,142	131,694	279,106	3,787	25,285	138,040
New England.....	345	97	12,787	50,983	10,975	20,706	36,013	87,988	67,473	154,628	1,654	14,860	77,971
Massachusetts....	33	16	3,213	13,934	2,790	5,577	9,567	30,383	16,938	46,254	( <sup>1</sup> )	3,674	24,885
Rhode Island....	300	77	8,294	30,669	7,090	12,894	21,587	48,044	42,498	90,590	1,081	10,878	50,986
Middle Atlantic...	429	92	7,629	29,431	6,221	11,782	20,604	53,170	57,287	108,725	1,756	8,780	50,158
New York.....	400	87	7,140	27,486	5,799	10,987	19,214	49,623	53,084	101,396	1,632	8,116	46,869
New Jersey.....	20	5	479	1,913	413	778	1,361	3,440	4,130	7,149	( <sup>1</sup> )	596	2,921
North Central.....	37	6	356	1,451	293	525	1,103	2,848	1,803	4,588	( <sup>1</sup> )	661	4,631
East North Central	26	5	257	1,040	216	386	826	2,367	1,480	3,794	( <sup>1</sup> )	550	4,057
South.....	35	2	293	990	257	517	758	1,980	1,878	3,719	( <sup>1</sup> )	338	1,304
West.....	64	6	492	2,071	416	785	1,531	4,156	3,253	7,446	( <sup>1</sup> )	646	3,976
Pacific.....	48	6	424	1,924	364	692	1,428	3,771	2,954	6,778	( <sup>1</sup> )	557	3,483
California.....	37	6	385	1,790	332	633	1,328	3,530	2,806	6,371	( <sup>1</sup> )	520	3,278

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3.—VALUE OF COSTUME JEWELRY SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Costume Jewelry Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3961- --	Costume jewelry and costume novelties, except precious metal, total.....	251,815	236,250
	Base metal, whether or not electroplated with gold, silver, chromium, etc:		
39610 11	Rings and ring mountings.....	2,065	<sup>r</sup> 4,071
39610 21	Men's jewelry (excluding watch attachments).....	33,461	28,434
39610 31	Women's and children's jewelry and costume novelties (excluding watch attachments).....	95,582	<sup>r</sup> 100,640
39610 41	Watch attachments (bracelets for watches).....	14,565	8,961
39610 51	Fraternal, college, and school jewelry and emblems, including military insignia (excluding rings).....	10,300	4,130
39610 61	Religious jewelry, such as rosaries, chaplets, religious medals, crosses, etc.....	5,531	4,147
39610 71	Other jewelry worn or carried about the person, except cigar and cigarette cases and lighters, compacts, and vanity cases.....	6,001	9,202
39610 81	Imitation pearls (including necklaces) made of glass, plastic or other materials.....	21,284	13,807
39610 91	Compacts and vanity cases, except precious metals and all leather.....	9,500	18,736
39610 98	Other costume jewelry and costume novelties made of plastics, wood, leather, etc.....	21,050	
39610 00	Costume jewelry and costume novelties, except precious metal, not specified by kind.....	32,476	44,122

<sup>r</sup>Revised.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

POSTAGE AND FEES PAID  
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OFFICIAL BUSINESS

# 1963 CENSUS OF MANUFACTURES

MC63(P)-39C-4



INDUSTRY SERIES

preliminary  
report

## Needles, pins, and fasteners

SIC Code 3964

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Needles, Pins, and Fasteners Industry had total shipments valued at \$333 million, an increase of 51 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 13 percent from 1958 to a total of 20 thousand employees in 1963. Value added by manufacture amounted to \$188 million in 1963, an increase of 47 percent from 1958.

The Needles, Pins, and Fasteners Industry includes establishments engaged primarily in the manufacture of notions, such as machine and hand needles, pins, hooks and eyes, eyelets, buckles, and slide and snap fasteners.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE NEEDLES, PINS, AND FASTENERS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3964)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	341	147	20,040	88,502	16,485	32,305	63,376	188,251	144,045	332,657	7,403
1958.....	367	128	17,756	69,873	14,251	26,723	47,957	127,664	93,645	220,517	4,276
1954 <sup>3</sup> .....	357	130	23,152	80,846	18,893	35,935	56,674	118,378	84,194	206,602	4,981
1947 <sup>3</sup> .....	277	115	22,959	58,791	19,341	39,309	44,328	97,292	49,929	147,221	5,578
1939 <sup>3</sup> .....	79	(NA)	(NA)	(NA)	11,139	(NA)	12,428	27,267	14,609	41,876	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Needles, Pins, and Fasteners Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Needles, Pins, and Fasteners Industry amounted to \$333 million. Of this total, \$25 million were products primary to other industries; and \$19 million were receipts for miscellaneous activities. The industry shipments of primary products represented 92 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 93 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$310 million of needles, pins, and fasteners were shipped by all producers of these products. Of this total, \$289 million, or 93 percent, were shipped by plants classified in Industry 3964, Needles, Pins, and Fasteners, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 89.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any



## 1963 CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE NEEDLES, PINS, AND FASTENERS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3964)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)	All employ- ees, number	Value added by manufac- ture (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	341	147	20,040	88,502	16,485	32,305	63,376	188,251	144,045	332,657	7,403	17,756	127,664
New England.....	62	39	5,733	29,070	4,571	8,879	20,442	56,358	34,503	91,435	2,206	6,017	41,563
Rhode Island....	8	4	891	3,859	654	1,200	2,336	5,958	4,930	10,728	(1)	887	5,602
Connecticut.....	39	27	4,266	22,611	3,421	6,704	16,056	44,603	27,176	72,642	1,792	4,446	31,118
Middle Atlantic...	224	80	9,241	39,324	7,530	14,656	28,004	71,143	65,064	136,254	2,771	8,509	58,054
New York.....	195	65	6,038	24,287	5,154	9,839	18,144	45,690	48,353	93,813	1,514	5,246	30,780
North Central.....	25	9	2,109	8,449	1,718	3,295	5,428	21,055	14,898	36,360	890	1,910	16,148
Illinois.....	9	6	922	4,010	683	1,221	2,155	7,979	5,835	13,901	(D)	1,062	7,788
South.....	21	14	2,484	8,994	2,269	4,578	7,707	35,018	26,083	60,485	1,461	1,183	11,040
West.....	9	5	473	2,665	397	897	1,795	4,677	3,497	8,123	(1)	137	859

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF NEEDLES, PINS, AND FASTENERS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Needles, Pins, and Fasteners Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
3964--	Needles, pins, and fasteners, total.....	.....	(X)	310,365	(X)	220,845
39641 11	Zipper or slide fasteners (each 12 inches is one unit when sold in continuous chain).....	Million units..	2,219	142,973	1,473	87,251
39642 --	Needles, pins, fasteners, (except slide) and similar notions.....	.....	(X)	152,357	(X)	112,037
	Snap fasteners:					
39642 11	Sew on type.....	Great gross....	(NA)	906	(NA)	1,023
39642 19	Other snap fasteners (such as 4 part, riveted, or mechanically applied type, etc.).....	...do.....	(NA)	18,602	(NA)	18,558
39642 21	Metal buckles for wearing apparel, including those covered with fabric or other material, but excluding costume jewelry.....	.....	(X)	14,086	(X)	13,070
39642 31	Other fasteners, buckles (except shoe) and apparel trimming (hooks and eyes, rivets and burrs, trimming, plastic buckles, etc.).....	.....	(X)	28,691	(X)	19,803
39642 41	Tape (hook and eye and snap) fasteners.....	Gross yards....	193,831	6,985	187,332	5,586
39642 51	Hair curlers (except rubber, and except those designed for beauty parlor use).....	Great gross....	(NA)	31,613	(NA)	10,368
	Needles, except hypodermic, phonograph and styli:					
	Knitting machine:					
39642 63	Spring-beard.....	Thousand.....	-	-	(X)	( <sup>1</sup> )
39642 61	Latch.....	...do.....	201,428	12,462	149,673	6,284
39642 65	Sewing machine (household and industrial dry-thread).....	...do.....				
39642 69	Other needles, except phonograph needles and styli (including shoe machine, hand sewing, hand knitting, crocheting, darning, etc.)....	.....	(X)	7,997	(X)	10,316
	Pins (except jewelry):					
39642 81	Common or toilet, including dressmakers' pins.....	1,000 pounds...	2,380	4,563	2,373	3,702
39642 83	Hair pins, metal, "bobby" type.....	...do.....	7,134	7,941	9,369	12,119
39642 87	Safety pins.....	1,000 gross....	10,765	3,503	9,161	2,989
39642 89	Other pins, hat pins, glasshead pins, plastic and metal hairpins other than metal bobby type, etc.....	.....	(X)	5,177	(X)	28,219
39642 00	Needles, pins, fasteners, (except slide) and similar notions, not specified by kind.....	.....	(X)	9,831	(X)	( <sup>3</sup> )
39640 00	Needles, pins, fasteners, not specified by kind.....	.....	(X)	15,035	(X)	321,557

- Represents zero. (NA) Not available. (X) Not applicable.

<sup>1</sup>In 1958, latch and spring beard knitting machine needles are included with "other needles."<sup>2</sup>Includes \$617 thousand of "Metal hairpins, other than bobby type."<sup>3</sup>In 1958, product code 3964200 has been included with code 3964000.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-39D-1



INDUSTRY SERIES

preliminary  
report

Brooms and brushes

SIC Code 3981

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Brooms and Brushes Industry shipped products valued at \$321 million, an increase of 16 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 3 percent from 1958 to a total of 17 thousand employees in 1963. Value added by manufacture amounted to \$168 million in 1963, an increase of 22 percent from 1958.

The Brooms and Brushes Industry includes establishments engaged primarily in the manufacture of household, industrial, and street sweeping brooms; and brushes such as paint brushes, tooth brushes, toilet brushes, and household and industrial brushes.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE BROOMS AND BRUSHES INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS

(SIC code 3981)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	641	167	16,610	73,471	13,401	25,755	49,363	168,449	152,770	320,863	4,357
1958.....	723	179	17,082	64,573	13,557	25,601	42,917	137,496	137,073	275,722	3,981
1954 <sup>3</sup> .....	698	177	16,826	54,789	13,534	15,595	36,294	102,948	124,013	227,162	3,074
1947 <sup>3</sup> .....	706	(NA)	18,551	44,875	15,543	30,617	31,162	87,288	92,523	179,811	(NA)
1939 <sup>3</sup> .....	565	(NA)	14,406	16,151	11,678	(NA)	10,746	29,002	31,307	60,309	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Brooms and Brushes Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries) and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Brooms and Brushes Industry amounted to \$321 million. Of this total, \$24 million were products primary to other industries; and \$63 million were receipts for miscellaneous activities. The industry shipments of primary products represented 91 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 89 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$247 million of brooms and brushes were shipped by all producers of these products. Of this total, \$234 million, or 95 percent, were shipped by plants classified in Industry 3981, Brooms and Brushes while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 94.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any

## CENSUS OF MANUFACTURES

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U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale

trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE BROOMS AND BRUSHES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3981)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)	(\$1,000)		(\$1,000)
United States, total.....	641	167	16,610	73,471	13,401	25,755	49,363	168,449	152,770	320,863	4,357	17,082	137,496
New England.....	47	18	3,155	15,745	2,536	4,919	10,837	53,851	48,275	102,846	806	3,199	44,565
Middle Atlantic...	170	57	5,137	22,450	4,133	7,786	14,966	46,521	41,009	86,841	1,381	5,074	35,801
New Jersey.....	37	16	1,362	6,206	1,106	1,962	4,073	12,612	10,233	22,636	(D)	876	6,717
East North Central	123	40	3,829	18,779	3,017	5,957	11,710	36,893	33,640	70,405	1,420	4,109	31,393
Ohio.....	28	13	1,605	8,656	1,204	2,296	4,890	16,199	13,841	30,032	777	1,653	15,252
Illinois.....	44	14	1,228	5,559	1,040	2,121	3,888	10,859	10,132	21,080	(1)	1,416	9,414
West North Central	46	9	1,064	3,752	935	1,816	3,031	7,412	5,546	13,134	(1)	933	4,399
Minnesota.....	8	2	206	882	151	317	579	1,755	1,412	3,185	(1)	292	2,384
Iowa.....	12	2	389	1,536	376	757	1,475	3,548	2,658	6,265	(1)	105	628
South.....	171	30	2,575	9,057	2,146	4,074	6,482	17,617	17,012	34,595	(1)	2,664	14,177
Maryland.....	10	5	786	3,654	626	1,235	2,357	6,559	6,773	13,247	(D)	931	6,101
North Carolina...	24	2	229	670	193	345	458	1,042	1,709	2,733	(1)	231	974
Florida.....	9	5	250	813	214	412	552	1,443	1,363	2,760	(1)	287	1,247
West.....	84	13	850	3,688	634	1,203	2,337	6,155	7,288	13,042	(1)	1,103	7,161
California.....	56	7	553	2,555	389	744	1,482	4,180	5,063	9,151	(1)	742	5,098

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup>Less than \$500 thousand.

## CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF BROOMS AND BRUSHES SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Brooms and Brushes Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963		1958	
		Total shipments including interplant transfers		Total shipments including interplant transfers	
		Quantity (1,000 dozen)	Value (\$1,000)	Quantity (1,000 dozen)	Value (\$1,000)
3981- --	Brooms and brushes, total.....	(X)	246,760	(X)	208,057
39811	Brooms, total.....	(X)	38,133	(X)	33,741
39811 13	Household floor brooms.....	1,771	20,582	1,700	19,038
39811 98	Other brooms (industrial brooms, whisk brooms, toy brooms, hearth brooms, street-sweeping machine brooms, street brooms, stable brooms, etc.).....	(X)	12,650	(X)	4,951
39811 00	Brooms, not specified by kind.....	(X)	4,901	(X)	9,752
39812	Paint and varnish brushes, total.....	(X)	73,391	(X)	60,666
	Paint and varnish brushes, including whitewash, kalsomine, paper-hanging, marking, and stencelling brushes:				
39812 11	Made of pure bristle.....	3,731	29,085	4,818	30,085
39812 31	Made of synthetic bristle.....	2,592	23,505	1,264	14,917
39812 51	Made of other materials, including mixtures.....	498	2,430	623	6,185
39812 71	Paint rollers, complete units.....	1,740	16,197	617	8,234
39812 00	Paint and varnish brushes, not specified by kind.....	(X)	2,174	(X)	1,245
39813	Other brushes, total.....	(X)	125,982	(X)	103,389
39813 11	Artists' brushes and hair pencils, except artists' air brushes.....	(NA)	5,357	2,014	4,002
	Personal brushes:				
39813 21	Tooth brushes.....	14,376	21,847	12,179	20,514
39813 27	Hairbrushes.....	2,061	17,353	1,264	7,974
39813 29	Other, including shaving brushes.....	(X)	3,310	(X)	5,402
	Maintenance brushes (floor sweeps and brushes, scrub brushes, dusting brushes, window brushes, etc.; excluding twisted-in-wire brushes):				
39813 35	Household.....	(X)	14,102	(X)	13,903
39813 37	Industrial.....	(X)	14,144	(X)	13,094
39813 43	Industrial brushes, except maintenance, including power-driven rotary, end, cup, jewelers' and dentists' brushes, etc.....	(X)	22,315	(X)	14,264
39813 51	Twisted-in-wire brushes (all types).....	(X)	12,695	(X)	9,678
39813 98	Other brushes.....	(X)	9,802	(X)	9,206
39813 00	Other brushes, not specified by kind.....	(X)	5,057	(X)	5,352
39810 00	Brooms and brushes, not specified by kind.....	(X)	9,254	(X)	10,261

- Represents zero.

(NA) Not available.

(X) Not applicable.

<sup>1</sup>Includes upright wound brooms, metal case brooms, or other brooms of similar construction made of broomcorn.

U.S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON, D.C. 20233

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OFFICIAL BUSINESS



# 1963 CENSUS OF MANUFACTURES

MC63(P)-39D-2



## INDUSTRY SERIES

### Hard surface floor coverings

SIC Code 3982

preliminary  
report

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Hard Surface Floor Coverings Industry had total shipments valued at \$205 million, an increase of 13 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of 22 percent from 1958 and 3 percent from 1962 to a total of 6.2 thousand employees in 1963. Value added by manufacture amounted to \$120 million in 1963, an increase of 29 percent from 1958 and 8 percent from 1962.

The Hard Surface Floor Coverings Industry includes establishments engaged primarily in the manufacture of linoleum, asphalted-felt-base, and other hard surface floor coverings, not elsewhere classified.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.--GENERAL STATISTICS FOR THE HARD SURFACE FLOOR COVERINGS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3982)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new <sup>1</sup>	Standard error of estimate (percent) for number of employees column <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)					
1963.....	16	12	6,247	39,212	5,005	10,182	29,690	119,845	80,690	205,097	4,455	(X)
1962.....	(NA)	(NA)	6,446	39,386	5,282	10,952	30,599	110,738	82,779	191,265	4,959	3
1961.....	(NA)	(NA)	6,569	38,168	5,298	10,845	29,390	96,857	79,458	179,708	5,651	2
1960.....	(NA)	(NA)	7,086	39,732	5,815	11,825	31,107	96,141	83,894	183,847	7,845	2
1959.....	(NA)	(NA)	8,042	44,768	6,788	14,260	36,330	110,892	97,464	206,520	(9,515)	1
1958.....	14	14	7,999	41,924	6,722	14,034	34,113	93,145	87,138	181,584	5,443	(X)
1954 <sup>3</sup> .....	16	16	9,638	43,596	8,242	17,382	35,918	103,265	79,298	187,304	6,352	(X)
1947.....	18	18	9,928	31,571	8,764	20,267	26,796	82,548	92,788	173,255	(NA)	(X)
1939 <sup>3</sup> .....	17	(NA)	8,301	13,505	7,028	(NA)	10,406	41,506	28,369	69,875	(NA)	(X)

(NA) Not available. (X) Not applicable.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>The data are estimates derived from a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures. These estimates, consequently, may differ from the results that would have been obtained from a complete canvass of all manufacturing establishments. The percentage standard errors in this column indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. Figures shown in parentheses have standard errors exceeding 15 percent. See the annual survey of manufactures volumes for further discussion of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Hard Surface Floor Coverings Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Hard Surface Floor Coverings Industry amounted to \$205 million. Of this total, \$38 million were products primary to other industries; and \$2 million were receipts for miscellaneous activities. The industry shipments of primary products represented 81 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 84 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3A, indicates that \$168 million of hard surface floor coverings were shipped by all producers of these products. Of this total, \$165 million, or 98 percent, were shipped by plants classified in Industry 3982, Hard Surface Floor Coverings, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 98.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.



## 1963 CENSUS OF MANUFACTURES

3

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of

the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1963 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE HARD SURFACE FLOOR COVERINGS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3982)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufacture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new (\$1,000)	All employees, number	Value added by manufacture (\$1,000)
	Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	16	13	6,247	39,212	5,005	10,182	29,690	119,845	80,690	205,097	4,455	7,999	93,145
Northeast.....	9	8	5,841	36,551	4,687	9,564	27,927	114,191	75,809	194,671	4,352	7,234	84,975
All other divisions.....	7	5	406	2,661	318	618	1,763	5,654	4,881	10,426	( <sup>1</sup> )	765	8,170

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.



## 1963 CENSUS OF MANUFACTURES

Table 3A.—QUANTITY AND VALUE OF HARD SURFACE FLOOR COVERINGS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Hard Surface Floor Coverings Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	1963			1958		
		Production for all purposes  (1,000 sq. yds.)	Total shipments including interplant transfers		Production for all purposes  (1,000 sq. yds.)	Total shipments including interplant transfers	
			Quantity (1,000 sq. yds.)	Value (\$1,000)		Quantity (1,000 sq. yds.)	Value (\$1,000)
3982- --	Linoleum, asphalted-felt-base and other hard surface floor coverings, n.e.c., total.....	(X)	(X)	168,080	(X)	(X)	151,893
39821 --	Linoleum.....	(X)	(X)	33,739	(X)	(X)	47,839
39821 11	Sheet goods: Over-all thickness 1/8" and thicker.....	21,291	23,259	33,739	23,727	23,012	34,951
39821 13	Less than 1/8" thickness: .050 wearing surface.....						
39821 15	Less than .050 wearing surface.....				2,730	2,562	1,894
39821 31	Tile: Over-all thickness 1/8" or thicker (backed and unbacked)....				2,299	2,628	4,213
39821 33	Less than 1/8" over-all thickness: .050 wearing surface.....						
39821 35	Less than .050 wearing surface.....	8,642	7,922	6,264			
39821 00	Linoleum, not specified by kind.....	(X)	(X)	-	(X)	(X)	517
39822 --	Asphalted-felt-base and supported plastic floor coverings, total.	(X)	(X)	133,738	(X)	(X)	102,580
39822 12	Floor covering: Enamel coated or printed: Border rugs.....	52,992	56,701	14,943	59,044	59,682	17,756
39822 22	Sheet goods: Wider than 8/4.....	13,466	11,923	3,657	40,690	40,903	15,563
39822 25	8/4 and narrower.....						
39822 32	Plastic coated or plastic printed border rugs and sheet goods, including rotagravure printed.....	77,243	77,149	44,340	63,352	56,406	33,109
39822 49	Other asphalted-felt-base floor covering.....	4,541	5,322	2,421			
39822 51	Wall covering.....						
39822 81	Plastic floor, wall, and counter covering: Supported, including scrap vinyl backed: Sheet goods <sup>1</sup> .....	30,709	28,566	65,197	20,470	20,162	27,502
39822 91	Tile.....	1,565	1,631	2,602	2,326	2,809	3,810
39822 00	Asphalted-felt-base and supported plastic floor covering, not specified by kind.....	(X)	(X)	578	(X)	(X)	-
39820 00	Linoleum, asphalted-felt-base and other hard surface floor coverings, n.e.c., not specified by kind.....	(X)	(X)	603	(X)	(X)	1,474

- Represents zero. n.e.c. Not elsewhere classified. (X) Not applicable.

<sup>1</sup>1958 data not strictly comparable with data for 1963 because of changes in product mix.

Table 3B.—INDEXES OF PRODUCTION AND UNIT VALUE FOR LINOLEUM, ASPHALTED-FELT-BASE AND OTHER HARD SURFACE FLOOR COVERINGS, N.E.C., SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Indexes 1954 = 100)

Product code	Product and year	Production	Unit value
3982-	Linoleum, asphalted-felt-base and other hard surface floor coverings, n.e.c.....1963...	105	199
	.....1958...	98	100
39821	Linoleum.....1963...	35	120
	.....1958...	60	109
39822	Asphalted-felt-base and supported plastic floor covering.....1963...	178	187
	.....1958...	137	91

n.e.c. Not elsewhere classified.

<sup>1</sup>Calculations exclude data for product code 3982281.

U.S. DEPARTMENT OF COMMERCE

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-39D-3



INDUSTRY SERIES

Morticians' goods

SIC Code 3988

preliminary  
report

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Morticians' Goods Industry had total shipments valued at \$290 million, an increase of 22 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed a decrease of less than 1 percent from 1958 to a total of 17 thousand employees in 1963. Value added by manufacture amounted to \$158 million in 1963, an increase of 23 percent from 1958.

The Morticians' Goods Industry includes establishments engaged primarily in the manufacture of

caskets, coffins, burial cases, and coffin shipping cases, whether of wood or other material except concrete (Industry 3272); morticians' supplies and accessories, such as burial garments, gloves, slippers, casket linings, and embalming fluids; and morticians' paraphernalia and equipment.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE MORTICIANS' GOODS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3988)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	619	224	17,289	86,231	13,550	27,509	58,275	158,240	132,761	290,133	5,452
1958.....	592	219	17,362	73,736	13,805	27,760	50,604	128,879	109,907	237,773	5,754
1954 <sup>3</sup> .....	563	217	16,729	59,233	13,302	26,499	40,001	95,369	82,226	177,287	2,846
1947 <sup>3</sup> .....	568	(NA)	22,375	60,002	18,242	38,987	42,388	92,395	96,434	188,829	(NA)
1939 <sup>3</sup> .....	599	(NA)	16,615	23,007	12,447	(NA)	13,392	38,491	31,862	70,353	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Morticians' Goods Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Morticians' Goods Industry amounted to \$290 million. Of this total, \$12 million were products primary to other industries; and \$12 million were receipts for miscellaneous activities. The industry shipments of primary products represented 96 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$268 million of morticians' goods were shipped by all producers of these products. Of this total, \$266 million, or 99 percent, were shipped by plants classified in Industry 3988, Morticians' Goods, while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was also 99.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment" and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in



## 1963 CENSUS OF MANUFACTURES

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1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted

every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE MORTICIANS' GOODS INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3988)

Geographic area	1963											1958	
	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new (\$1,000)	All employ- ees, number	Value added by manufac- ture (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	619	224	17,289	86,231	13,550	27,509	58,275	158,240	132,761	290,133	5,452	17,362	128,879
New England.....	38	15	1,032	5,041	768	1,646	3,343	8,593	7,376	15,868	(1)	1,033	6,767
Massachusetts...	19	9	625	3,103	480	1,061	2,166	5,030	4,558	9,473	(1)	655	4,560
Middle Atlantic...	104	34	3,427	17,823	2,740	5,668	13,425	29,160	24,384	53,092	1,138	3,655	28,372
Pennsylvania....	46	19	2,315	11,653	1,887	3,882	9,190	18,328	13,433	31,491	859	2,446	18,911
East North Central	143	66	6,047	34,415	4,589	9,515	21,736	68,424	43,877	112,078	2,729	5,907	51,326
Ohio.....	39	17	1,519	8,076	1,208	2,393	5,715	15,389	8,433	23,554	(1)	1,850	14,276
Indiana.....	32	17	2,355	14,857	1,693	3,630	8,663	33,076	19,179	52,148	1,854	1,829	20,222
Illinois.....	38	21	1,611	8,679	1,265	2,522	5,680	14,944	10,892	25,946	(1)	1,510	12,072
West North Central	65	20	1,129	5,176	800	1,597	3,097	9,004	8,870	17,887	(1)	1,167	7,586
Missouri.....	33	12	578	2,549	402	808	1,563	4,470	4,167	8,623	(1)	588	3,730
South Atlantic....	81	25	1,848	6,812	1,527	2,662	4,752	13,042	12,056	25,223	(1)	1,999	11,006
North Carolina...	16	9	352	1,285	288	603	886	2,432	3,019	5,445	(D)	358	2,109
Georgia.....	20	7	836	2,808	725	984	2,120	5,360	3,735	9,294	(1)	923	4,130
East South Central	51	21	1,241	4,591	1,032	2,181	3,247	8,296	12,097	20,186	(1)	1,077	5,847
Tennessee.....	27	12	802	2,838	684	1,471	2,119	5,140	8,302	13,334	(1)	683	3,671
West South Central	56	18	1,239	4,930	1,009	2,038	3,266	9,974	9,843	19,893	(1)	1,189	7,646
West.....	81	25	1,326	7,443	1,085	2,202	5,409	11,747	14,258	25,906	(1)	1,335	10,329
California.....	43	18	906	5,147	730	1,517	3,743	8,369	9,724	18,011	(1)	922	6,808

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

(D) Withheld to avoid disclosing figures for individual companies.

<sup>1</sup> Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3.—QUANTITY AND VALUE OF MORTICIANS' GOODS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Morticians' Goods Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Total shipments including interplant transfers			
		1963		1958	
		Quantity (1,000 units)	Value (\$1,000)	Quantity (1,000 units)	Value (\$1,000)
3988- --	Morticians' goods, total.....	(X)	267,583	(X)	217,671
39881 11	Metal caskets and coffins, completely lined and trimmed.....	821	123,561	556	85,181
39882 --	Wood caskets and coffins, completely lined and trimmed.....	(X)	67,149	(X)	69,995
39882 11	Cloth covered, completely lined and trimmed.....	557	36,083	638	39,815
39882 52	Hard finish, completely lined and trimmed.....	203	27,211	184	24,056
39882 00	Wood caskets and coffins, completely lined and trimmed, not specified by kind.....	(X)	3,855	(X)	6,124
39883 --	Other caskets and coffins, metal vaults, and morticians' supplies, total..	(X)	64,208	(X)	53,234
39883 11	Caskets and coffins, other than metal or wood, completely lined and trimmed (masconite, plastic, glass fibrous material, etc.).....	(NA)	3,461	(NA)	1,118
39883 21	Caskets other than metal and wood (plastic, glass fibrous material, masconite, etc.) unlined and/or untrimmed.....	(NA)	174		
	Unlined and/or untrimmed caskets:				
39883 31	Metal.....	257	16,063	186	13,803
39883 55	Wood.....	52	3,571	71	4,864
39883 71	Casket and coffin shells.....	207	8,151	265	6,746
39883 81	Outer burial boxes, except concrete (excluding shipping containers)....	155	2,383	190	2,475
39883 91	Metal burial vaults (12 gauge or heavier) (excluding shipping cases)....	107	9,655	(NA)	6,705
39883 93	Other burial vaults (plastic, glass fibrous material, masconite, etc.) except concrete.....	(NA)	239	(X)	12,016
39883 98	Other morticians' supplies, including embalming chemicals, burial garments, casket shipping containers and cases, inner liners sold as such, and morticians' equipment and supplies.....	(X)	19,489		
39883 00	Other caskets and coffins, metal vaults, and morticians' supplies, not specified by kind.....	(X)	1,022	(X)	5,507
39880 00	Morticians' goods, not specified by kind.....	(X)	12,665	(X)	9,261

(NA) Not available. (X) Not applicable.

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# 1963 CENSUS OF MANUFACTURES

MC63(P)-39D-4



## INDUSTRY SERIES

**preliminary  
report**

### Signs and advertising displays

SIC Code 3993

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Signs and Advertising Displays Industry had total shipments valued at \$636 million, an increase of 39 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 18 percent from 1958 to a total of 43 thousand employees in 1963. Value added by manufacture amounted to \$400 million in 1963, an increase of 42 percent from 1958.

The Signs and Advertising Displays Industry includes establishments engaged primarily in the manufacture of electrical, mechanical, cutout, or plate signs and advertising displays, including neon signs and advertising novelties.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

Table 1.—GENERAL STATISTICS FOR THE SIGNS AND ADVERTISING DISPLAYS INDUSTRY IN THE UNITED STATES FOR SELECTED YEARS  
(SIC code 3993)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expend- itures, new <sup>1</sup> (\$1,000)
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>2</sup> .....	3,200	566	42,788	238,261	33,174	63,974	160,550	400,379	239,760	635,796	14,451
1958.....	2,725	460	36,170	173,028	27,949	53,272	118,887	281,168	179,078	457,025	13,505
1954 <sup>3</sup> .....	2,620	394	33,581	135,578	26,205	51,681	90,602	219,942	142,909	362,094	6,967
1947 <sup>3</sup> .....	1,982	350	28,489	81,190	23,987	49,611	61,339	128,969	75,762	204,731	5,540
1939 <sup>3</sup> .....	1,386	(NA)	23,370	33,675	17,206	(NA)	20,557	55,132	32,493	87,625	(NA)

(NA) Not available.

<sup>1</sup>Includes expenditures for plants under construction but not in operation. This information was not collected in 1939 and 1947 and is not available by 4-digit industry for 1954.

<sup>2</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>3</sup>Data for Alaska and Hawaii are not included.

April 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in

the money figures shown in this report for changes in price levels.

VALUE OF SHIPMENTS

The value of shipments reported by establishments classified in the Signs and Advertising Displays Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of shipments and other receipts of establishments classified in the Signs and Advertising Displays Industry amounted to \$636 million. Of this total, \$24 million were products primary to other industries; and \$63 million were receipts for miscellaneous activities. The industry shipments of primary products represented 96 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 95 percent.

The total value of shipments for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$574 million of signs and advertising displays were shipped by all producers of these products. Of this total, \$549 million, or 96 percent, were shipped by plants classified in Industry 3993, Signs and Advertising Displays while the remainder was shipped by plants classified in other industries. The comparable percentage in 1958 was 95.

GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in tables 1 and 2 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (tables 1 and 2) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports

## 1963 CENSUS OF MANUFACTURES

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will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809.

For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE SIGNS AND ADVERTISING DISPLAYS INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(SIC code 3993)

Geographic area	1963										1958		
	Establishments (number)		All employees		Production workers			Value added by manufac- ture	Cost of materials	Value of shipments	Capital expend- itures, new	All employ- ees, number	Value added by manufac- ture
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)						
United States, total.....	3,200	566	42,788	238,261	33,174	63,974	160,550	400,379	239,760	635,796	14,451	36,170	281,168
New England.....	178	29	2,015	10,787	1,551	3,076	7,351	17,762	10,285	27,890	520	1,648	11,044
Massachusetts....	89	20	1,264	7,147	939	1,896	4,803	11,524	7,030	18,456	(1)	1,064	6,868
Middle Atlantic...	810	164	11,752	63,737	9,319	18,200	44,527	106,237	61,369	166,635	2,507	9,886	72,739
New York.....	500	109	7,898	42,626	6,331	12,307	30,246	73,354	38,147	111,007	1,585	6,471	47,861
New Jersey.....	146	27	1,788	9,346	1,439	2,821	6,506	15,460	10,984	26,266	(1)	1,278	9,495
Pennsylvania....	164	28	2,066	11,765	1,549	3,072	7,775	17,423	12,238	29,362	505	2,137	15,383
East North Central	700	154	12,375	72,874	9,892	18,699	46,996	120,558	81,792	202,950	4,122	10,719	88,499
Ohio.....	183	50	3,605	18,718	2,677	5,298	12,388	28,979	23,780	53,749	1,194	3,092	22,871
Illinois.....	238	62	5,054	31,963	4,337	7,764	19,632	51,216	30,170	81,305	1,597	4,605	3,952
Wisconsin.....	82	16	1,398	7,580	1,084	2,091	5,291	14,766	11,707	26,354	(1)	1,261	9,439
West North Central	241	51	3,758	18,363	2,811	5,288	12,261	32,580	21,122	53,526	1,339	3,336	25,646
Iowa.....	42	4	549	2,757	350	691	1,599	7,251	4,216	11,384	(1)	577	5,717
Kansas.....	31	4	315	1,537	229	471	1,032	2,504	1,293	3,783	(1)	241	1,761
South.....	687	81	6,359	30,904	4,879	9,676	21,660	52,805	32,377	84,319	3,239	5,021	36,830
Virginia.....	35	5	606	2,896	480	920	1,983	4,147	3,039	7,232	(1)	506	3,370
North Carolina..	33	4	266	1,293	206	431	807	2,413	1,244	3,624	(1)	148	1,083
South Carolina..	20	4	306	1,402	252	515	937	2,995	1,193	4,110	(1)	187	1,225
Kentucky.....	30	4	307	1,511	242	479	1,015	2,368	2,399	4,694	(1)	299	1,536
Mountain.....	136	23	1,299	7,881	960	1,840	5,358	13,454	5,022	18,243	542	1,014	7,725
Pacific.....	448	64	5,230	33,715	3,762	7,195	22,397	56,983	27,793	82,233	2,182	4,546	38,685
Washington..	67	8	526	3,517	363	658	2,178	5,649	2,114	7,770	(1)	435	2,975
California.....	323	51	4,262	27,352	3,106	6,006	18,540	47,077	23,143	67,625	1,503	3,821	33,084

Note: Each producing State not shown separately in the above table was withheld either (a) to avoid disclosing figures for individual companies, in this or associated industries or areas, or (b) because the industry was of relatively minor economic importance in the State. (Additional publishable detail will appear in the final census report on this industry.)

<sup>1</sup>Less than \$500 thousand.

## 1963 CENSUS OF MANUFACTURES

Table 3.—VALUE OF SIGNS AND ADVERTISING DISPLAYS SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Signs and Advertising Displays Industry, but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Value of shipments including interplant transfers (\$1,000)	
		1963	1958
3993- --	Signs and advertising displays, total.....	573,750	407,893
39931 11	Luminous tubing, fluorescent lamp and incandescent bulb signs (electric).....	141,802	99,855
39932 --	Nonelectric signs and advertising displays, total.....	297,006	193,482
	Metal signs, by any application process, including point-of-sale signs, road signs, truck signs, highway and street markers, and all other metal signs:		
39932 11	Porcelain enameled.....	8,474	<sup>r</sup> 13,956
39932 19	All other metal signs.....	49,075	<sup>r</sup> 34,758
39932 21	Screen processed signs (other than metal).....	21,238	13,424
39932 31	Window, backbar, counter, and lobby cutouts and displays.....	52,716	<sup>r</sup> 39,011
39932 98	All other signs and advertising displays, including sign letters.....	139,190	<sup>r</sup> 69,646
39932 00	Nonelectric signs and advertising displays, not specified by kind.....	26,313	22,688
39933 11	Advertising specialties.....	83,904	64,361
39930 00	Signs and advertising displays, not specified by kind.....	51,038	50,195

<sup>r</sup>Revised.

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# 1963 CENSUS OF MANUFACTURES



MC63(P)-19A-1

## INDUSTRY SERIES

preliminary  
report

### Ordnance and accessories (except missiles)

SIC Codes 1911 1929 1931 1941 1951 1961 1999

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers' statistics in the Ordnance and Accessories (Except Missiles) Industries were as shown below.

The Ordnance and Accessories (Except Missiles) group consists of the following SIC Industries:

Industry 1911--Guns, Howitzers and Mortars: Consists of establishments engaged primarily in the manufacture of naval, aircraft, anti-aircraft, tank, coast, and field artillery having a bore over 30mm (or over 1.18 inch), and components. Establishments primarily engaged in manufacturing small arms and parts 30mm (or 1.18 inch) and below are classified in Industry 1951.

Industry 1929--Ammunition, N.E.C.: Consists of establishments engaged primarily in the manufacture of ammunition, not elsewhere classified or in loading and assembling ammunition over 30mm (or over 1.18 inch) for naval, aircraft, anti-aircraft, tank, coast, and field artillery; including component parts. This industry also includes establishments primarily engaged in manufacturing bombs, mines, torpedoes, grenades, depth charges, chemical warfare projectiles, and their component parts. Establishments primarily engaged in manufacturing small arms ammunition are classified in Industry 1961; explosives in Industry 2892; and military pyrotechnics in Industry 2899. This industry has been amended to include SIC 1921, Artillery ammunition and 1922, ammunition loading and assembling, which were defined as separate industries in the 1957 Standard Industrial Classification Manual. Also, establishments producing guided missiles and space vehicles are now classified in SIC 1925, Guided Missiles and Space Vehicles.

SIC industry	Total shipments		Average employment		Value added by manufacture	
	1963 (million dollars)	Percent change from 1958	1963 (1,000)	Percent change from 1958	1963 (million dollars)	Percent change from 1958
SIC 1929.....	450	+225	28	+144	255	+192
SIC 1931.....	415	+95	11	+62	158	+148
SIC 1941.....	157	-77	9	-75	96	-73
SIC 1951.....	132	+66	10	+25	88	+72
SIC 1961.....	192	+15	9	-2	104	+25
SIC 1999.....	359	+80	25	+59	262	+65
SIC 1911.....						

May 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS





Industry 1931—Tanks and Tank Components: Consists of establishments engaged primarily in the manufacture or assembly of complete tanks, and specialized components for tanks. Establishments primarily engaged in manufacturing military vehicles other than tanks are classified in Group 371, and tank engines in Industry 3519.

Industry 1941—Sighting and Fire Control Equipment: Consists of establishments engaged primarily in the manufacture of sighting and fire control equipment, but which are not engaged in manufacturing optical lenses and prisms. Important products of this industry include bomb sights, percentage correctors, wind correctors, directors, and sound locators. Establishments engaged in manufacturing optical lenses and prisms, and also manufacturing sighting and fire control equipment, are classified in Industry 3831.

Industry 1951—Small Arms, 30mm and Under: Consists of establishments engaged primarily in the manufacture of small firearms having a bore 30mm (or 1.18 inch) and below, and parts for small firearms. Establishments primarily engaged in manufacturing artillery and mortars having a bore over 30mm (or over 1.18 inch), and component parts are classified in Industry 1911.

Industry 1961—Small Arms Ammunition: Consists of establishments engaged primarily in the manufacture of ammunition for small arms having a bore of 30mm (or 1.18 inch) and below: Establishments primarily engaged in manufacturing ammunition except for small arms are classified in Industry 1929, blasting and detonating caps and safety fuses in Industry 2892, and fireworks in Industry 2899.

Industry 1999—Ordnance and Accessories N.E.C.: Consists of establishments engaged primarily in the manufacture of ordnance and accessories, not elsewhere classified. Guided missiles and space vehicles are classified in Industry 1925.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Data for Alaska and Hawaii are included for 1958 and subsequent years but are not included for 1954 and earlier years.

#### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in

distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

#### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1955-1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March; for 1949-1954, they represent an average of all employees for the payroll period ended nearest the 15th of March, May, August, and November. For 1947, the all employee figure is an average of 12 monthly figures. For 1939 and prior years, all employees represents the average number of production workers based on 12 monthly figures, plus the number of nonproduction workers for one payroll period (usually in October). The figures for production workers, 1949-1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November. For 1947 and prior years, the figure represents the average of 12 monthly figures.

#### VALUE ADDED BY MANUFACTURE

For 1954 and 1958-1963 value added by manufacture represents adjusted value added; for earlier years it represents unadjusted value added. Adjusted value added is equal to the value of shipments (including resales of finished products) less the cost of finished products resold, materials, supplies, fuels, electric energy, and contract work, plus the net change in the value of finished products and work-in-process inventories between the beginning and end of the year. Unadjusted value added is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of shipments for products manufactured plus receipts for services rendered.

Value added avoids the duplication in the value of shipments which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

#### VALUE OF SHIPMENTS

The values of shipments reported by establishments classified in the Ordnance and Accessories (Except Missiles) Industries consist not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc.

## SPECIALIZATION RATIOS

Industry code	Industry and year	Value of shipments (millions of dollars)				Primary product specialization ratio col. b col. b + c (percent) (E)
		Total <sup>1</sup>	Primary products	Secondary products	Miscellaneous receipts	
		(A)	(B)	(C)	(D)	
1911	Guns, howitzers and mortars.....1963...	(2)	(2)	(2)	(2)	(NA)
	1958...	7	(2)	(2)	(2)	(NA)
1929	Ammunition, n.e.c.....1963...	450	234	143	73	62
	1958...	138	(NA)	(NA)	(NA)	(NA)
1931	Tanks and tank components..1963...	415	382	14	18	96
	1958...	212	178	21	14	89
1941	Sighting and fire control equipment.....1963...	157	73	78	6	48
	1958 <sup>2</sup> ...	683	417	253	12	62
1951	Small arms, 30mm and under.1963...	132	121	6	5	95
	1958...	79	70	7	3	91
1961	Small arms ammunition.....1963...	192	177	(3)	<sup>3</sup> 16	(NA)
	1958...	167	141	(3)	<sup>3</sup> 26	(NA)
1999	Ordnance and accessories, n.e.c.....1963...	<sup>4</sup> 359	<sup>4</sup> 316	<sup>4</sup> 15	<sup>4</sup> 29	(NA)
	1958...	<sup>r4</sup> 209	<sup>r4</sup> 140	<sup>4</sup> 12	<sup>4</sup> 57	(NA)

(NA) Not available. n.e.c. Not elsewhere classified. <sup>r</sup>Revised.<sup>1</sup>Detail may not add to total because of independent rounding.<sup>2</sup>Combined with figures for Industry 1999.<sup>3</sup>Figures on shipments of secondary products by small arms ammunition manufacturers are included in their miscellaneous receipts.<sup>4</sup>Includes figures for Industry 1911. For 1958, figures for Industry 1999 include figures for old SIC 1922.

The total value of shipments for each of these industries (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of

primary products of each of the industries shipped by all producers. The latter figures appear in table 3.

## 1963 CENSUS OF MANUFACTURES

## COVERAGE RATIOS

Industry code	Industry and year	Value of primary product shipments			Coverage ratio <u>col. b</u> col. a (percent) (D)
		Total, made in all industries <sup>1</sup> (million dollars) (A)	Made in this industry (million dollars) (B)	Made in other industries (million dollars) (C)	
1911	Guns, howitzers and mortars..1963... 1958...	13 (2)	(NA) (2)	(NA) (2)	(NA) (NA)
1929	Ammunition, n.e.c.....1963... 1958...	328 (NA)	234 (NA)	94 (NA)	71 (NA)
1931	Tanks and tank components.....1963... 1958...	484 211	382 178	102 33	79 84
1941	Sighting and fire control equipment.....1963... 1958...	r 105 r 471	r 73 r 417	32 54	69 89
1951	Small arms, 30mm and under....1963... 1958...	147 86	121 70	25 16	83 81
1961	Small arms ammunition.....1963... 1958...	192 151	177 141	16 9	92 94
1999	Ordnance and accessories, n.e.c. <sup>3</sup> .....1963... 1958...	389 4210	316 4140	73 470	(NA) (NA)

n.e.c. Not elsewhere classified. (NA) Not available. <sup>r</sup>Revised.

<sup>1</sup>Detail may not add to total because of independent rounding.

<sup>2</sup>Combined with figures for Industry 1999.

<sup>3</sup>Includes value for products primary to Industry 1911.

<sup>4</sup>For 1958, includes value for products primary to old SIC 1922.

## GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in table 1 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (table 1) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

## PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965.



through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses

of mineral industries, retail trade, wholesale trade, and selected services, under authority of Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 1.—GENERAL STATISTICS FOR THE ORDNANCE AND ACCESSORIES (EXCEPT MISSILES) INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC codes 1911, 1929, 1931, 1941, 1951, 1961, and 1999)

Industry code	Industry and year	Establishments number		All employees		Production workers			Value added by manufacture, adjusted (\$1,000)	Cost of materials (\$1,000)	Value of shipments (\$1,000)	Capital expenditures, new <sup>1</sup> (\$1,000)
		Total	With 20 or more employees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1911	Guns, howitzers, and mortars...1963... 1958...	(2) 5	(2) 4	(2) 251	(2) 1,970	(2) 124	(2) 297	(2) 819	(2) 2,942	(2) 3,919	(2) 6,892	(2) (D)
1929	Ammunition, n.e.c.....1963... 1958...	44 50	35 37	27,701 11,331	175,192 59,068	21,551 7,164	41,924 14,239	120,289 34,265	255,044 87,027	188,499 52,367	450,035 138,445	7,346 36,187
1931	Tanks and tank components....1963... 1958...	26 17	19 10	11,425 7,069	76,870 39,861	7,904 4,619	16,479 9,651	49,061 25,197	157,776 63,711	270,433 143,863	414,569 212,372	5,486 1,524
1941	Sighting and fire control equipment.....1963... 1958 <sup>2</sup> ..	13 20	8 15	9,249 36,432	66,949 237,193	5,810 19,935	11,085 40,511	36,641 112,512	96,275 360,402	60,262 324,952	156,578 682,580	3,630 4,088
1951	Small arms, 30mm and under....1963... 1958...	52 34	23 23	10,001 8,010	57,347 39,213	7,523 5,823	15,097 11,580	39,294 27,240	87,661 51,005	42,044 20,442	131,531 79,107	5,122 2,128
1961	Small arms ammunition.....1963... 1958...	31 24	13 12	8,909 9,049	51,895 44,215	7,061 5,682	14,083 11,307	38,092 26,033	103,747 82,733	85,715 75,672	192,454 167,446	5,474 4,166
1999	Ordnance and accessories, n.e.c.....1963 <sup>3</sup> .. 1958...	57 47	34 22	24,770 15,297	176,737 92,808	15,046 10,078	30,466 20,957	94,725 55,580	262,173 155,537	126,558 35,384	359,256 192,764	30,520 10,756

(D) Withheld to avoid disclosing figures for individual companies. n.e.c. Not elsewhere classified. <sup>R</sup>Revised.

<sup>1</sup>Includes expenditures for plants under construction and not yet in operation.

<sup>2</sup>Industry 1911 combined with Industry 1999 for 1963. However, a value of shipments figure for the products primary to this industry is shown in table 3.

<sup>3</sup>Excludes 1958 SIC 1922, ammunition loading.

Table 2.—GENERAL STATISTICS FOR THE ORDNANCE AND ACCESSORIES (EXCEPT MISSILES) INDUSTRY BY GEOGRAPHIC AREAS: 1963 AND 1958

(Preliminary State and Regional detail not available without further review)

Table 3.—QUANTITY AND VALUE OF ORDNANCE AND ACCESSORIES (EXCEPT MISSILES) SHIPPED BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes quantity and value of these products reported not only by establishments classified in the Ordnance and Accessories (Except Missiles) Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Shipments")

Product code	Product	Unit of measure	Total shipments including interplant transfers			
			1963		1958	
			Quantity	Value (\$1,000)	Quantity	Value (\$1,000)
1911--	Guns, howitzers, mortars, and related equipment, over 30mm (or over 1.18 inches).....	.....	(X)	<sup>1</sup> 12,815	(X)	( <sup>2</sup> )
1929--	Ammunition, n.e.c.....	.....	(X)	327,611	(X)	<sup>2</sup> 133,031
19291--	Ammunition over 30mm (or 1.18 inches and over), n.e.c.....	.....	(X)	131,402	(X)	70,736
19292--	Receipts for ammunition loading and assembly over 30mm (or over 1.18 inches).....	.....	(X)	196,209	(X)	( <sup>2</sup> )
19293--	Ammunition, n.e.c.....	.....	(X)	196,209	(X)	62,295
1931--	Tanks and tank components.....	.....	(X)	484,051	(X)	210,752
1941--	Sighting and fire control equipment.....	.....	(X)	104,613	(X)	<sup>2</sup> 470,914
19410 10	As reported in the census of manufactures.....	.....	(X)	104,613	(X)	<sup>2</sup> 470,914
	As reported on Census Annual Form MA-38B.....	.....	(X)	<sup>3</sup> 104,000	(X)	(X)
1951--	Small arms, 30mm and under.....	.....	(X)	147,289	(X)	86,037
19512 32	Pistols and revolvers.....	No. of units	496,139	19,716	489,340	18,969
	Rifles:					
19512 52	Center fire, repeating.....	..do.....	528,814	35,394	224,921	12,495
19512 54	Rim fire, repeating.....	..do.....	371,145	9,564	289,540	7,633
19512 56	Rim fire, single shot.....	..do.....	179,875	2,354	163,239	1,639
	Shot guns:					
	Single barrel:					
19512 62	Repeating.....	..do.....	321,869	17,916	382,945	17,072
19512 63	Single shot.....	..do.....				
19512 64	Double barrel, including over and under type.....	..do.....	281,170	7,475	224,277	5,327
	Other small firearms 30mm and under including machine guns:					
19511 13	Shipped under U.S. military contract.....	.....				
19512 72	Shipments under other than U.S. military contracts.....	.....	(X)	48,735	(X)	21,853
19511 53						
19512 75						
19512 81	Parts and attachments for small firearms.....	.....	(X)	6,135	(X)	1,049
19510 00	Small arms 30mm and under, not specified by kind.....	.....	(X)	6,135	(X)	1,049
1961--	Small arms ammunition, 30mm and under.....	.....	(X)	192,389	(X)	150,651
19610 12	Shipped under U.S. military contract.....	.....	(X)	82,090	(X)	55,643
	Shipments other than U.S. military contracts:					
	For small firearms (rifles, shotguns, and sidearms):					
	Cartridges:					
19610 83	Rim fire.....	.....	(X)	41,501	(X)	92,797
19610 85	Center fire.....	.....				
19610 87	Shotgun shells.....	.....	(X)	49,734		
19610 89	All other, including for machine gun, air rifle, B-B gun, etc.....	.....	(X)	14,616		
19610 00	Small arms ammunition, not specified by kind.....	.....	(X)	4,448	(X)	2,211
1999--	Ordnance and accessories, n.e.c.....	.....	(X)	376,183	(X)	<sup>2</sup> 210,043

n.e.c. Not elsewhere classified. (X) Not applicable. <sup>R</sup>Revised.<sup>1</sup>Although general statistics for Industry 1911 have been combined with SIC 1999, the value of products primary to SIC 1911 is shown separately. Most of this value is accounted for by establishments in industries other than 1911.<sup>2</sup>Value of shipments for 1911 and 19292 included with 1999 for 1958.<sup>3</sup>Value shown is preliminary. Final figures will be published later this year in Current Industrial Reports Series, M38B, "Selected Instruments and Related Products."

# PUBLICATION PROGRAM 1963 CENSUSES OF MANUFACTURES AND MINERAL INDUSTRIES

Results of the 1963 Censuses of Manufactures and Mineral Industries will be issued initially in preliminary reports which will furnish summary data. These reports will be superseded by more detailed final reports. An outline of the publication program is shown below.

## PRELIMINARY REPORTS

### Summary Series

Manufactures (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. General statistics will also be presented for industries grouped according to market categories—durable and nondurable goods industries. A second report will provide general statistics without industry detail for regions, States, and large standard metropolitan statistical areas.

Mineral Industries (2 reports). One report will present general statistics at the U.S. level for each 4-digit industry and 2- and 3-digit industry group. A second report will provide general statistics by 2-digit industry group for regions and States.

### Industry Series

Manufactures (about 370 reports). Separate reports for virtually all of the 430 manufacturing industries will give industry totals for general statistics for the United States and for regions and States. A product table in each report will give the quantity and value of shipments of the products classified in the industry for the United States.

Mineral Industries (about 45 reports). Separate reports for industries or for groups of industries for all of the 50 mineral industries will present general statistics for the United States and for regions and States. A product table will give the quantity and value of shipments of the products classified in the industry for the United States and for regions and States.

### Area Series

Manufactures (51 reports). A separate report for each State and the District of Columbia will present general statistics for the State and for the larger standard metropolitan statistical areas within the State by 2-digit and selected 3-digit industries, and for most individual counties on an "all manufacturing" basis.

### Subject Series

Manufactures (2 reports). One report will provide data on the number of establishments, employment, and

value added by manufacturing for each 4-digit industry according to employment size of the establishment in each industry. A separate report will provide statistics on inventories for each 4-digit industry on a national basis; State data on inventories will also be provided.

Mineral Industries (one report). This report will provide number of establishments, employment, and value added in mining for each 4-digit industry according to employment size of the establishment in each industry.

## FINAL REPORTS

All preliminary reports will be superseded by comparable final reports. After separate final reports have been issued, they will be assembled and reissued in cloth bindings as follows:

### Manufactures

Volume I, Summary Statistics

Volume II, Industry Statistics  
Part 1, Major Groups 20-28  
Part 2, Major Groups 29-39

Volume III, Area Statistics

### Mineral Industries

Volume I, General Summary and Industry Statistics

Volume II, Area Statistics

## 1963 CENSUS OF MANUFACTURES IN PUERTO RICO

A separate 1963 Census of Manufactures was conducted jointly by the Puerto Rico Planning Board, Government of the Commonwealth of Puerto Rico, and the U.S. Bureau of the Census. A report of the findings will include statistics of manufacturing activity by industry and geographic area on value added by manufacture, employment, payrolls, inventories, capital expenditures, etc.

## Additional Information and Order Forms

A more detailed description of the publication program of the 1963 censuses, including tentative publication dates, is available free of charge. Separate announcement and order forms for the preliminary reports of the censuses of manufactures and mineral industries are also available free of charge. Requests for order forms should specify which report series is desired. All requests should be addressed to the Publications Distribution Section, Bureau of the Census, Washington, D.C., 20233.



U.S. DEPARTMENT OF COMMERCE  
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# 1963 CENSUS OF MANUFACTURES



MO63P1 19A 2

INDUSTRY SERIES

preliminary  
report

## Missiles and space vehicles SIC Code 1925

This report is one of a series presenting preliminary information on industries and products covered in the 1963 Census of Manufactures. The data will be superseded in a final report which, in turn, will be included in Volume II, Industry Statistics, 1963 Census of Manufactures.

During 1963, manufacturers in the Complete Guided Missiles and Space Vehicles Industry did work and had other receipts valued at \$3,093 million, an increase of 40 percent over 1958, according to preliminary results obtained from the 1963 census. Average employment in this industry showed an increase of 39 percent from 1958 to a total of 150 thousand employees in 1963. Value added by manufacture amounted to \$1,934 million in 1963, an increase of 68 percent from 1958.

The Complete Guided Missiles and Space Vehicles Industry includes establishments engaged primarily

in the manufacture of completely assembled guided missiles and space vehicles. Establishments primarily engaged in manufacturing guided missile and space vehicle engines and engine parts are classified in Industry 3722; space satellites, guided missile and space vehicle airborne and ground guidance, check-out and launch electronic systems and components in Industry 3662; and guided missile and space vehicle airframes, nose cones, and space capsules in Industry 3729.

This report does not include figures for administrative offices, warehouses, garages, or other auxiliary units which service manufacturing establishments. The classification of establishments for which data are tabulated in this report is based upon the definitions embodied in the 1957 edition of the Standard Industrial Classification (SIC) Manual, as amended to date. Industry 1925

Table 1.—GENERAL STATISTICS FOR THE COMPLETE GUIDED MISSILES AND SPACE VEHICLES INDUSTRY IN THE UNITED STATES: 1963 AND 1958

(SIC code 1925)

Year	Establishments (number)		All employees		Production workers			Value added by manufac- ture <sup>1</sup>	Cost of materials	Value of work done	Capital expend- itures, new <sup>2</sup>
	Total	With 20 or more employ- ees	Number	Payroll (\$1,000)	Number	Man-hours (1,000)	Wages (\$1,000)				
1963 <sup>3</sup> .....	31	29	150,364	1,334,629	57,046	116,306	417,298	1,933,642	1,159,384	3,093,026	48,894
1958 <sup>4</sup> .....	26	26	108,431	788,414	60,894	129,208	370,703	1,153,021	1,053,689	2,206,710	46,137

<sup>1</sup>The adjusted value added for the Guided Missiles and Space Vehicles Industry does not take into account the change in inventory between the beginning and end of the year, since the figures reported by establishments in this industry are value of work done rather than value of shipments. It does include value added by resales.

<sup>2</sup>Includes expenditures for plants under construction but not in operation.

<sup>3</sup>In addition to the data shown, estimates have been derived and generally published for 1959-1962 from a representative sample of manufacturing establishments canvassed in the annual survey of manufactures. These estimates, consequently, may differ from the results that would be obtained from a complete canvass of all manufacturing establishments. The percentage standard errors indicate the range of differences that can be expected between the estimates and complete canvass totals because of sampling fluctuations. For this industry, the standard errors were relatively high. Therefore, the 1959-1962 data have been withheld from this preliminary report. It is planned, however, to publish such information in the final census reports. See annual survey of manufactures volumes for further explanation of the sampling estimate.

<sup>4</sup>A revision in the definition of this industry was introduced in the 1957 Standard Industrial Classification. Accordingly, the data for 1963 and 1958 are not comparable with those for earlier years.

June 1965

U. S. DEPARTMENT OF COMMERCE, John T. Connor, Secretary

BUREAU OF THE CENSUS



represents a newly defined industry. The type of operations covered by this industry are included in the 1957 edition of the SIC Manual as part of SIC 1929.

### ESTABLISHMENTS

The census of manufactures is conducted by obtaining a separate report for each establishment in the United States; however, manufacturing establishments with no employees are excluded from the census. Of almost 310,000 manufacturing establishments included in the 1963 census, most are operated as single-establishment companies and file a single report. Firms operating more than one establishment were required to submit a report for each separate location. Companies engaged in distinctly different lines of activity at one location were asked to submit separate reports if the company records permitted such a separation, and if the separate activities were substantial in size.

### EMPLOYEES

The method of compiling figures for employees has varied somewhat from period to period. For the period 1958 and 1963, figures on all employees represent the average number of production workers for the payroll periods ended nearest the 15th of March, May, August, and November, plus the number of all other employees for the payroll period ended nearest the 15th of March. The figures for production workers, 1958 and 1963, are based on employment for the payroll period ended nearest the 15th of March, May, August, and November.

### VALUE ADDED BY MANUFACTURE

Value added for this industry is obtained by subtracting the cost of materials, supplies, and containers, fuel, purchased electric energy and contract work from the value of work done on complete guided missiles and space vehicles, the value of shipments for secondary products manufactured, plus receipts for services rendered.

Value added avoids the duplication in the value of work done which results from the use of products of some manufacturing establishments as materials by other manufacturing establishments and is, for most purposes, the best value measure available for comparing the relative economic importance of manufacturing industries or geographic areas. No adjustments have been made in the money figures shown in this report for changes in price levels.

### VALUE OF WORK DONE

The value of work done and other receipts reported by establishments classified in the Complete Guided Missiles and Space Vehicles Industry consists not only of products described above as primary to the industry, but also of the value of secondary products (which are primary in other industries), and miscellaneous receipts for contract work, resale of products, etc. The total value of work done and other receipts of establishments

classified in the Complete Guided Missiles and Space Vehicles Industry amounted to \$3,093 million. Of this total, \$147 million were products primary to other industries; and \$143 million were receipts for miscellaneous activities. The industry shipments of primary products represent 95 percent of the total manufactured product shipments, primary and secondary. The 1958 ratio was 74 percent.

The total value of work done and other receipts for the industry (i.e., the total value of receipts of establishments classified in the industry) should be clearly distinguished from the total value of primary products of the industry shipped by all producers. The latter figure, appearing in table 3, indicates that \$3,858 million of receipts for work performed on complete guided missiles and space vehicles was reported by all producers of these products. Of this total, \$2,802 million, or 73 percent, was performed by plants classified in Industry 1925, Complete Guided Missiles and Space Vehicles, while the remainder was performed by plants classified in other industries. The 1958 ratio was 83 percent.

### GENERAL STATISTICS

The general statistics (employment, payrolls, cost of materials, value of shipments, etc.) in table 1 are reported for each establishment as a whole. Aggregates of such figures for an industry reflect not only the primary activities of the establishments in that industry, but also their activities in the manufacture of secondary products and receipts for their other activities (contract work on materials owned by others, repair work, etc.). This fact should be taken into account in comparing industry statistics (table 1) with product statistics (table 3) which show the shipments by all producers of the primary products of the industry.

### PUBLICATION PROGRAM AND BACKGROUND

More detailed figures for this industry will appear in the final census reports. These reports will also include a comprehensive discussion of such concepts as "industry," "establishments," and "secondary production," as well as the various statistical items such as "employment," and "value added." Similar preliminary and final reports will be issued for other industries during the coming months. Series of preliminary summary reports showing U.S. totals for each manufacturing industry and for each State are being issued. Final industry reports and final area reports will be published during the second half of 1965 through mid-1966. Order forms showing these reports and their prices may be obtained from any U.S. Department of Commerce field office or from the Bureau of the Census, Washington, D.C., 20233.

The 1963 Census of Manufactures is the 27th census of manufacturing establishments in the United States. The first census was conducted in 1810 covering manufacturing activities in 1809. For 1963, it was conducted jointly with censuses of mineral industries, retail trade, wholesale trade, and selected services, under authority of



## 1963 CENSUS OF MANUFACTURES

3

Title 13 of the United States Code. This law requires that a census of manufactures be conducted every 5 years and, as recently amended, to cover years ending in "2" and "7." Thus, the next

census will be conducted in 1968 covering manufacturing activity in 1967. Title 13 also authorizes an annual sample survey of manufacturing establishments in interim years.

Table 2.—GENERAL STATISTICS FOR THE COMPLETE GUIDED MISSILES AND SPACE VEHICLES INDUSTRY, BY GEOGRAPHIC AREAS: 1963 AND 1958

(Preliminary State and regional detail not available without further review)

Table 3.—VALUE OF WORK DONE ON COMPLETE GUIDED MISSILES AND SPACE VEHICLES BY ALL PRODUCERS IN THE UNITED STATES: 1963 AND 1958

(Includes value of these products reported not only by establishments classified in the Complete Guided Missiles and Space Vehicles Industry but also by establishments making these items as "secondary" products in other industries. See text under "Value of Work Done")

Product code	Product	Total value of work done <sup>1</sup> (\$1,000)	
		1963	1958
1925- --	Guided missiles and space vehicles, completely assembled, total.....	3,857,531	1,886,682
19251 --	Guided missiles and space vehicles, complete.....	1,536,782	900,837
19251 11	Complete missile systems (excluding propulsion).....	1,234,393	900,837
	Complete space vehicle systems (excluding propulsion):		
19251 13	For United States Government military customers.....	52,804	
19251 15	For United States Government nonmilitary customers.....	249,585	
19253 --	Research and development on guided missiles and space vehicles (complete)....	1,635,927	<sup>2</sup> 985,845
19253 11	Research and development on complete missile systems.....	785,766	(NA)
	Research and development on complete space vehicle systems:		
19253 13	For United States Government military customers.....	205,143	(NA)
19253 15	For United States Government nonmilitary customers.....	645,018	(NA)
19255 --	All other services on complete missiles and space vehicles.....	684,822	( <sup>2</sup> )
19255 11	All other services on complete missiles.....	593,869	(NA)
	All other services on complete space vehicles:		
19255 13	For United States Government military customers.....	39,921	(NA)
19255 15	For United States Government nonmilitary customers.....	50,092	(NA)
19255 23	For nongovernment customers.....	940	(NA)

(NA) Not available.

<sup>1</sup>Data represent receipts, billings, or value of work done.

<sup>2</sup>In the 1958 Census of Manufactures, a single value figure for research and development and all other services on complete guided missiles and space vehicles was collected. Consequently, separate detailed statistics comparable to 1963 are not available.

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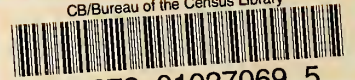


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